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ORIGINAL ARTICLES.

SURGICAL RELATIONS OF THE ILEO-CÆCAL REGION.[1]

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In considering the functions of the different portions of the alimentary tube, and their liability to derangements, none seems of more importance than the ileo-cæcal division of the small and the large intestines. Apart from the intimate connections of the duodenum with neighboring organs, there is no part of this highly vitalized conduit, from the stomach to the rectum, whose physiological operation is so essential to health and whose pathological conditions are so hurtful, as this valvular mechanism. A complete separation of the nutritious and excrementitious processes is effected by this somewhat complicated apparatus; and an entire transformation in the contents of the alimentary canal ensues after passing through this peculiar connection of the small and large intestines.

A brief outline of the relations of these organs, given by Weisse and by Ziegler, may prove satisfactory for a proper comprehension of the various affections, involving the ileo-cæcal connections, which require surgical treatment. The cæcum, lodged in the superior part of the right iliac fossa, and completely invested by peritoneum, is inferior to the ileo-colic opening—the latter at the junction of the cæcum and colon. From the cæcum is appended a blind tube, the appendix vermiformis, which curls inferiorly and is suspended by a special meso. The ascending colon for its first half is fixed to the interior of the right posterior wall of the flank by the ascending meso-colon (Weisse's Anatomy, p. 61). Upon the surface of the cæcum, its longitudinal muscular fibres are so collected as to form three bands, one anterior, one postero-external, and one postero-internal; it is these bands that determine its sacculated character. These longitudinal bands are presented in the course of the lower portion of the colon fron the bundling of the longitudinal muscular fibres, with the peculiar sacculæ of this gut interposed; having the appendices epiploicæ at the clefts between them. The inner mucous membrane is raised into transverse prominences between the three longitudinal furrows.

The superior branch of the ileo-colic artery distributes to the commencement of the ascending colon, the inferior distributes to the cæcum, and the terminal portion of the ileum and anastomoses with the trunk of the superior mesenteric artery. The inferior portion of the ileum is covered by peritoneum, and at the line where the two layers meet upon its circumference its arteries and nerves enter and its veins and lymphatics leave it. The valvulæ conniventes furrowed by the reduplication of the mucous membrane in the other parts of the small intestine, are absent in that portion of the ileum adjoining the valvular connection with the large intestine. The ileo-colic valve is formed by two reduplications of the mucous membrane of the colon, which effects a button-hole slit of communication, that only admits of the passage of solids or fluids from the small into the large intestines. This may be demonstrated by filling the ileum with water, and allowing it to pass through the valve into the colon, when reversing the current it will be arrested effectually by the valvular folds. The canal of the vermiform appendix opens into the cæcum, passing through its wall obliquely, thereby forming a valvular opening. Its mucous lining membrane differs from that of the cæcum (Weisse's Anatomy).

Colitis is sometimes caused by the arrest of fæcal matter in the ascending colon and the formation of hard masses; it is also due at times to septic infection, and again to a specific poison, as in dysentery. We learn from Ziegler's "Pathological Anatomy," that catarrh ending in atrophy is commonest in the large intestine, and especially in the cæcum. Nothnagel found that in 80 per cent. of the adults he examined there were traces of atrophy in the large intestine, at times confined entirely to the cæcum. The ascending colon came next as regards frequency, and then in diminishing order, the upper part of the ileum and the jejunum. The muscular coat is usually unaffected, but here and there it may be atrophied. It is not very liable to degeneration, but sometimes, as in phthisis, it is found to be fatty. Lastly, there is a congenital form of atrophy, a hyperplasia of the muscularis, which is not made up in after life. In chronic catarrh atrophy is occasionally associated with the development of hyperplastic growths. They take the form of hyperplastic indurations of the submucosa or polypous excrescences arising from the mucosa. When fully developed these last consist of fibrous tissue enclosing a few remains of glandular structures, which here and there are degenerated into closed cysts.[1]

[1] Read in the Section on Surgery at the Thirty-Seventh Annual Meeting of the American Medical Association.

[1] Ziegler, Text-book of Pathological Anatomy, p. 281.

Inflammation of the ileum is often marked by the swelling and prominence of the solitary and agminated follicles. The former appear as reddish or grayish protuberant nodules; the agminated follicles as flat elevations, grayish, red or pink in color, and pitted with numerous little depressions. When these follicles break down they leave behind them follicular ulcers.[2]

The vermiform appendage is peculiarly adapted to catch and retain substances passing shrough the cæcum. Matters which have been swallowed—such as grape seeds, apple-pips, cherry-stones, and the like—and fæces, may accumulate in the appendage and set up inflammation. Sometimes these become encrusted with phosphates and carbonates, and so form fæcal concretions or calculi. The inflammation thus set up may extend to all the coats of the appendages and then attack the contiguous structures; and in this way necrosis and gangrene, with perforation, may be caused. The issue differs in different cases. It is comparatively favorable if the inflammation continues to be circumscribed, while the exudation is moderate in amount; protective adhesions and false membranes may thus be formed about the affected spot. It is very unfavorable when perforation takes place before adequate adhesions are formed; fatal peritonitis is nearly always induced. When perforation takes place into a part of the peritoneum shut off by adhesions a burrowing fæcal abscess is produced, which may burst internally or externally. Sometimes the appendage is entirely obliterated by adhesive inflammation; but if the inner or intestinal end becomes closed while the remainder continues to be patent, the natural mucous secretion may collect into the latter and distend it into a cyst.

Typhlitis and perityphlitis are sometimes due to the extension by continuity of inflammation already existing in more distant parts of the cæcum or colon. Tuberculous and typhoid ulceration localized in the vermiform appendages may give rise to dangerous lesions.[3]

As autopsic observations afford us an insight to the pathology of cases otherwise obscure, it may prove satisfactory to present an abstract of two cases from the report of Dr. W. T. Bull, in the *New York Medical Record*, touching suppurative peritonitis: A laborer, aged 25, with pulse 120, respiration 30, temperature 103°, with considerable general tympanitis and great pains, referred particularly to the right side and iliac fossa and radiating down the side, had a chill, followed by high fever and vomiting. He was constipated, but the bowels had moved once after an enema. The needle detected pus only in the lumbar region, where there was no tenderness. An incision was made down to the very wall of the colon, and but a drachm of offensive pus was found behind the colon. The symptoms of general peritonitis persisted, and he died in two days. The autopsy disclosed a general suppurative peritonitis, perforation of the appendix in two places near the cæcum, and fæces in the connective tissue of the iliac fossa, which was softened and necrotic as far up as the liver, but not yet broken down so as to form much pus, and *nowhere communicating with the peritoneal cavity*. In a like case of Dr. R. Wiener there was found general peritonitis and an abscess behind the cæcum and ascending colon, which contained a pint or two of fluid fæcal matter

A peculiarly instructive case of traumatic origin is reported in the *Medical Press*, of London, for March 31st, 1886, by Mr. W. A. Meredith, of a feeble woman aged 58 years, who was operated on at the Samaritan Free Hospital in April, 1885, for double ovarian cystoma, complicated by very extensive adhesions. At the end of a week, the bowels having acted and the pulse being normal, the stitches were removed and the abdominal incision was found well united. On the evening of the same day the patient suddenly complained of nausea and soon after vomited a quantity of dark-green fluid. The examination revealed some dulness over the region of the cæcum and the condition was diagnosticated as commencing intestinal obstruction. On the following morning an operation was undertaken, and on opening the abdomen the peritoneum was found intensely red and conjested, evidently in an early stage of acute inflammation. Attention was attracted to a coil of greatly distended small intestine, which was badly kinked and obstructed in consequence of the traction exerted upon it by a portion of the ligated omentum, which was closely adherent to its surface. This having been released with some difficulty, owing to the inflamed and softened state of the bowel, another distended coil, similarly obstructed by a separate omental band, was also set free. No further obstruction being discoverable, the abdomen was then closed. The acute symptoms were at once relieved by the operation, and the temperature fell to normal again on the third day, but convalescence was tedious. The bowels were evacuated for the first time on the twenty-third day by enema, and thenceforth they acted daily. The patient left the hospital on May 16th, exactly six weeks from the date of her first operation, and when last heard from in the end of October she had quite recovered her health.

The favorable issue of this operation on the eighth day after a previous laparotomy, from which inflammation had ensued, presents a crucial test of the efficacy of operative interference in abdominal troubles complicated with peritonitis; and is corroborated by other successful laparotomies after inflammatory development. This confirms my remark[4] when treating of Duodeno-cholecystostomy, as follows: It is an interesting fact that in some conditions of traumatic origin secondary operations are attended with less risk to life than those undertaken soon after the receipt of injury; and we are led to infer that the reaction or tolerance of the organization in its abnormal state may be favorable to the result of surgical procedures in the human system after the disorders connected with biliary obstruction have diminished the tendency to active or acute inflammation in the organism. A problem of serious import for the sur-

[2] Ibid., p. 282.
[3] Ibid., p. 283.

[4] On page 240 of the "Reference Handbook of the Medical Sciences," Vol. ii.

geon is, however, sometimes presented as to the extent of impairment in the vital energies that is compatible with recovery from an operation; and we must not delay surgical relief until the capacities of the physical constitution are exhausted; yet, the tendency to destructive inflammation must be lessened by this adynamic element, so as to impart a tolerance of surgical interference.

A case reported by Dr. Charles A. Leale, in *Gaillard's Journal* for April, 1886, illustrates an interesting phase of injury to the intestines, from a gun-shot wound. In this instance at least two portions of the bowels were perforated, one below the cæcum, in the ascending colon, and the other in the small intestines, each of which subsequently was the seat of an artificial anus, through which all the discharges took place from March 25, 1865, the day the wound was received, until April 27, when, to relieve a desire to empty the rectum, an enema of soap and water was given *per anus* with the desired effect of reëstablishing the potency of the entire length of the intestinal canal. After using the opium and stimulant treatment for thirty-one days, several sloughs of tissue and omentum were removed. Diet of beef extract and light nutritious food brought about steady improvement, and the doses of opium were gradually diminished until the seventy-ninth day. At this time the openings were thoroughly irrigated with sol. sodæ chlor., dil., the surrounding tissue down to the intestinal canal was denuded so as to represent an incised circular wound; the walls were approximated and the parts were hermetically sealed externally. In ten days the dressings were removed, showing complete success in the closure of the anterior wound, but failure of the operation as to the posterior, from the presence of a cherry-seed in the aperture, which had been swallowed while eating the fruit surreptitiously. Two weeks subsequently another operation obliterated the posterior fæcal fistula, after which the fæcal matter passed alone by the anus.

On the 30th of July, 1885, over twenty years after operating in this case, a letter was received stating that the patient "enjoyed pretty good health," and it is inferred that it was a complete success.

The fact of passing over a month subsequent to the injury without a rectal evacuation, and having intestinal communication restored by such simple means, corroborates the evidence afforded by discharges from both apertures, that no arrest occurred at the intervening ileo-cæcal connections, and substantiates the recuperative powers of nature.

The ileo-cæcal connections become involved in disease of an acute or chronic form, and the pathological condition may be of a benign or malignant nature. That abnormal relation of the parts connected with invagination of the ileum, by its passage through the valvular opening into the cæcum or colon, is, at the outset, simply a mechanical displacement, but very soon induces modifications of the nerve elements and in the sanguineous circulation, accompanied by an inflammatory state of the tissues. There may exist a considerable constriction by spasm of the muscular components of the ileo-cæcal valve causing all the symptoms of obstruction, with the development of inflammation only as a secondary modification, and we are warranted by the speedy fatal termination of some cases, with indications of collapse, in attributing the result to an operation through the nervous system similating shock. I had an opportunity of making a post-mortem of a case which was diagnosticated as intussusception in my private infirmary during my residence in Brazil, that died on the third day; and there were really no indications of inflammation in the tissues. A very remarkable feature of this invagination of fourteen inches of the ileum within the colon was such a constriction remaining at the valve four hours after death, when the autopsy was made, that no traction short of a rupture of the gut was sufficient to withdraw it. But upon insinuating a probe-pointed bistoury and nicking the edge of the valvular fold, the bowel was readily drawn out, being in such a state of preservation that there could have been no liability to disorganization of its structure had laparotomy, with release of the constriction, been resorted to some hours before the collapse ensued. This case is unique in that a spasmodic constriction continued after death.

In another case of death on the third day, to which allusion is made in my article on "Obscure Impediments of the Intestinal Canal," in the December, 188?, number of *Gaillard's Journal*, all the symptoms warranted the diagnosis of intussusception, and yet under the influence of chloroform there was no tumor found, or other evidence of local inflammation in any part of the abdomen.

The case of invagination through the ileo-cæcal valve in which laparotomy was performed on the fourth day, by Dr. J. C. Irish, of Lowell, Mass., only exhibited some congestion of the ileum for a few inches above the obstruction, and the remainder of the intestinal canal was free from any inflammatory action.[5]

It is evident, therefore, that inflammation is not set up generally within the first twenty-four hours after the symptoms of invagination indicate the nature of the case, so that the course inculcated by Mr. Frederick Treves, in the *British Medical Journal*, of August 29, 1885, as to the performance of laparotomy within this period is based upon correct pathological principles.

The great surgical desideratum in regard to this class of cases is a proper basis for forming a correct diagnosis, and a question of paramount importance is the propriety of resorting to an exploratory incision for the purpose of verifying the presumptive evidence afforded by symptoms of invagination. Simple incision of the coats of the ileum near the valve on account of arrested biliary calculi, and of the walls of cæcum for fæcal concretions or other solid bodies lodged in this depository, are required at times, all of which necessitate the preliminary measures of laparotomy.

In cases of doubtful diagnosis, presenting reasonable grounds for the conviction that there exists a disorder calling for operative interference, exploratory laparotomy should be resorted to at an early stage after other modes of treatment have failed to

[5] Boston Medical and Surgical Journal, Sept. 3, 1885.

afford relief; and the consequences of thus opening the abdominal cavity where operations upon the contained organs are not undertaken, are not generally serious.

With a view to afford temporary relief for ileo-cæcal disorders, enterotomy is recognized as a legitimate recourse in surgery; and some eminent surgeons have even recommended this procedure for forming an artificial anus, where the nature of the trouble was not apparent after exploratory laparotomy, yet it should be avoided whenever other means of relief are available.

"Typhlitis, strictly speaking, is limited to affections of the cæcum and its appendix vermiformis; perityphlitis is mostly due to extension of the inflammation to their peritoneal envelope; while the term paratyphlitis," according to Whittaker, "signifies an involvement of the extra-peritoneal and post-cæcal connective tissues," and may perhaps appropriately include all the inflammatory developments in the ileo-cæcal region. But the inquiry proposed extends to disorders of this division of the intestinal canal and its surroundings, which may occur without inflammatory action in the tissues, and hence not included in the above classification. I have therefore adopted the comprehensive phraseology which heads this paper, as a general expression, embodying the various derangements of the ileo-cæcal connections that call for surgical interference.

The modifications of structure from acute and chronic disease of an idiopathic nature, as well as those changes which are induced by obstructions of various kinds from within or without the intestinal canal, on either side of the valve of Bauhin, with the disturbance of function from volvulas and intussusception in this region, are the objects of our present investigation.

The degeneration of the normal constituents may result in fibrinous indurations or in malignant tumors, involving the walls of the cæcum and the vermiform appendix, as well as the adjacent structures, so as to interfere materially with their functions, and ultimately obliterate the lumen of the intestinal canal. On the other hand, suppurative action may ensue, burrowing in various directions, until a discharge takes place by ulcerations through the bladder, the colon, or into the peritoneal cavity, inducing peritonea, with all its grave consequences.

There are sometimes complications growing out of the implication of adjacent tissues which do not enter into the ileo-cæcal connections, from their temporary or partial engagement in the internal opening of the inguinal canal or in the aperture of the femoral tract. The strangulation, though relieved, may set up a train of disorders which extends itself to the neighboring organs by contact or by transmission of the inflammation through the common serous investment. Cellulitis may likewise ensue from septic influences, more especially in females, and involves the structures proper of the ileo-cæcal region. Thus it turns out that this special division of the intestinal canal is amenable to morbid impressions from various sources, independent o the immediate origin of trouble in its own tissues.

A portion of the ileo-cæcal connections being covered by peritoneum, while another portion is attached by connective tissue to the wall in the lumbar region outside of the duplicature of this serous lining of the abdomen, the pathological conditions of the different segments are correspondingly modified by the inflammatory processes affecting the venous components of this complex organization. The mucous and serous membranes, the fibrinous and muscular elements, the cellular and connective tissues, show diverse effects. We learn from a concise paper of Mr. J. Bland Sutton, in the London *Lancet*, that inflammation is "*the method by which an organism attempts to render inert noxious elements introduced from without or arising within it;*" and that "the most important feature in the inflammatory process is the vascular disturbance."

The facts and observations adduced present the whole process of inflammation in an entirely new aspect, and instead of being a purely pathological process, it will rank as one of normal physiology, which when in excess comes within the domain of pathology.

Inflammation may be of two kinds, according to the nature of the irritant. It may be simple or specific. Simple inflammation is the reaction which follows mechanical, thermal or chemical stimuli or irritations. A specific inflammation is one which results from the introduction into the organism of a particular poison or irritant. The mode by which a piece of noxious tissue is encapsulated or cast out of the body illustrates the process by which bacteria, etc., are in some cases rendered inert by the activity of cells. If the invasion is large and the vitality of the organism enfeebled, the leucocytes are insufficient to cope with them, and disastrous effects follow.

It is not my purpose to treat of derangements in the pelvic viscera disconnected with ileo-cæcal affections, yet the consequences of inflammatory action extending to other parts, and the effects of perforation inducing peritonitis, with the suppuration involving adjacent tissues, owing to structural changes in this portion of the intestinal canal, belong to our inquiry. The results of operative proceedings in general peritonitis under the new regimé encourages a resort to laparotomy under circumstances which formerly would have been considered as contra-indicating such a measure of treatment, and this is the most striking outgrowth of antiseptic surgery which recent investigation has developed. That the very condition of the abdominal contents which previously proved a barrier to incising its walls, should now present a sufficient reason for laparotomy with a view to its proper treatment, is a grand revolution in abdominal surgery. Not only in peritonitis following perforation, but in that from general morbific impressions, laparotomy is warranted by the record of cases in which relief has been thus secured.

There are cases of recovery or death reported in which accurate diagnosis could not be made, and in which consequently no operation was undertaken or autopsy permitted. The statistics of obstruction being always doubtful without an exploratory incision, we cannot draw a satisfactory comparison between the supposed cases of invagination which are

relieved by general treatment and those which are verified by the performance of laparotomy. But the number of cases in which the diagnosis has been confirmed by a detachment of some portion of the alimentary canal and its presence in the evacuations, may be compared with those fatal results in which invagination is recognized by autopsies, and it is very desirable that we should have accurate statements of all such cases, for the purpose of forming a table representing the percentage of mortality without laparotomy. These two proceedings have their advocates in British surgery, under the leadership respectively of Mr. Jonathan Hutchinson and Mr. Frederick Treves, the former holding to the treatment without operative interference and the latter supporting early resort to laparotomy.

An elaborate report of Prof. Heinrich Braun, of Jena, upon the operative treatment of invagination, presented to the German Medical Congress, April 8, 1885, gives a table of cases with results as follows: Since 1870 out of sixty-one cases there have been fifty-one operations, eighteen of these cases having occurred in Germany and the remaining forty-three in other countries; of the whole, thirty have occurred in children and twenty-one in adults. In those operated upon eleven have been relieved while forty have terminated fatally. In twenty-seven of the cases disinvagination was effected and in twenty-four it was not; of the former eighteen were children and nine were adults. Four children survived while fourteen died. Seven adults lived while two succumbed.

Resection of the invaginated intestine was practiced in twelve cases, of which only one lived and the other eleven died, six being children and five adults. Enterotomy was performed in nine cases with death in all, there being three children and six adults. Enterotomy without disinvagination terminated fatally in ten cases, seven being adults and three children.

In eight of the sixty-one cases tumors existed and some of these were of a malignant nature. Of the cases in which the invaginated portion of the intestine was removed by resection, 42 per cent. died from peritonitis, perforation, or subsequent stenosis.

The inference drawn by Dr. Braun from the unfavorable results of those cases in which operative measures were delayed from a few to many days after the development of symptoms, is, that surgical operations should be resorted to promptly when the invagination is not relieved by simple measures. When the disinvagination is accomplished while the bowel maintains its vitality nothing further is indicated, but when gangrene has commenced, resection should be resorted to, provided the general strength of the patient favors it. But in cases of marked prostration, accompanied with meteorism, it is advisable to form an artificial anus, as the most speedy means of relief.

In the discussion upon Dr. Braun's paper, it appears that in German practice the early stage of all abdominal disorders is relegated to the physician's management, and it is only when operative interference is demanded that the patient comes under the surgeon's care, so that the case is usually of a grave order before surgical measures are adopted. Even washing out of the stomach and enemata of various components, with inversion of the body, massage, etc., and internal medication or subcutaneous injections, are resorted to by the physician sometimes for days in succession before turning over the patient to a surgeon. There is no greater mistake in regard to the province of surgery, than to consider this sphere of duty as limited to instrumental appliances, and it should be understood that the highest and noblest achievement of the surgeon is to cure when it may be practicable without the knife, or in cases requiring it, to prepare his patient properly for an operation. Thirty-two of the cases reported involved the ileo-cæcal connection, and of these only three survived, being less than 10 per cent. of cures by operative measures in this class of invaginations.

In a table of resections of the intestine for malignant growth, accompanying a paper of Dr. Robert F. Weiss, presented to the New York Surgical Society, January 26, 1886, seven out of the thirty-five cases given were located in the ileo-cæcal structures. Four of these cases survived the operation of resection, and in another the result is not stated, but probably recovered from the operation, thus affording 71⅔ per cent. that escaped death from resection of the ileo-cæcal connections involved in malignant disease. The fact of recurrence in most of the cases at a longer or shorter interval does not materially affect the consideration of the propriety of such a measure; and yet there is an important lesson to be learned from the greater tolerance of the operative procedure in this chronic disorder of the tissues than in that acute inflammation connected with invagination.

A recognition of this pathological modification is essential for a proper comprehension of the surgical relations of the ileo-cæcal region and for a due appreciation of the different stages in the inflammatory processes affecting the various structures entering into this complex organism, at which separate steps may be taken for their relief. We have to encounter with surgical appliances the incipient hyperæmia or engorgement of tissues, the progressive changes of the inflammatory process, the suppurative degeneration and structural disintegration of acute developments; while on the other hand we must be prepared to combat the slower progress of fibrinous depositions, indurations, and accretions of material due to chronic disease, involving the elements which enter into the different tissues composing these organs. Again, the surgeon has to deal with those adventitious growths connected with malignant disease, which is very prone to manifest itself in the ileo-cæcal region; and each calls for a distinct mode of surgical treatment.

The operative procedures indicated by ileo-cæcal disorders are extra- or intra-peritoneal; the former consisting in exploratory punctures through the tissues in the inguinal or lumbar regions, and subsequent incisions to evacuate purulent collections; and the latter in laying open the abdominal wall for the purpose of correcting the abnormal relation of parts in the ileo-cæcal region. At the earliest period that pus may be detected in the iliac tumors deep inci-

sions have been attended with satisfactory results for the relief of fæcal abscesses. With the lights of experience as to the serious consequences of delay in obstruction of the intestinal canal from any cause on either side of the ileo-cæcal connection, it is warrantable to resort to laparotomy as soon as the symptoms indicate occlusion from other sources than fæcal impaction, without waiting to make a differential diagnosis, or delaying to test the effect of temporizing measures of treatment. The division of constricting bands, the unfolding of twists in the intestinal canal, the release of the invagination of one portion of the tube in another, the excision of gangrene or diseased segments and reunion by sutures, are demanded in various cases.

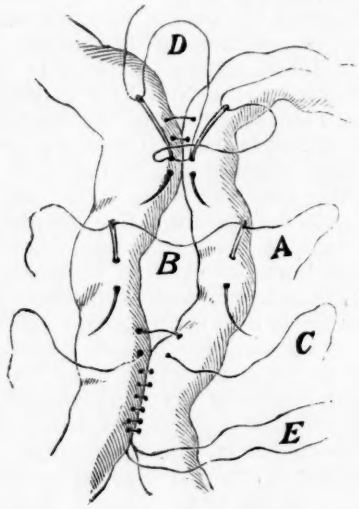


FIGURE 1.—A shows the insertion of needles for first stitch in intestinal walls. B represents the placing of initial loop. C displays the thread ready for closing. D gives the progressive stitching of walls in the opposite margins. E indicates the completion and knotting of threads.

Stenosis from fibrous depositions or malignant growths in the vicinity of the ileo-cæcal connection would seem to warrant the removal of the entire structure involved. But a grave question is presented as to the practicability of such a resection of this portion of the intestinal canal, and restoration of its tract, without a fatal result in acute cases. My experiments upon dogs by entire removal of the ileo-cæcal connection, and uniting the ileum with the colon, has caused death promptly in each case, apparently from the effects of shock, and it is doubtful whether favorable results can attend this operation on the human subject—the successful case of Czerny being incomplete resection, cannot be accepted as recommending excision in acute cases. The practicability of relief in this class of cases by effecting a direct communication between the ileum and colon, so as to cut off the passage through the ileo-cæcal valve, is worthy of consideration. This may be accomplished by uniting their walls with the Gely suture in an oval or circular form, so as to strangulate the enclosed segment, and thus cause an opening, while the outer surfaces become agglutinated, thus effecting union with immediate passage of the intestinal contents. The diseased structures become atrophied or may be excised subsequently. If it should be desirable to effect an immediate passage from the ileum into the colon, with a view to accomplish the resection of the diseased structures on the same occasion, there could be no difficulty in proceeding upon the same principle as indicated by my punch process for the communication of the gall-bladder and duodenum (in the article on "Duodeno-Cholecystostomy," which appeared recently in the second volume of the "Reference Handbook of the Medical Sciences").

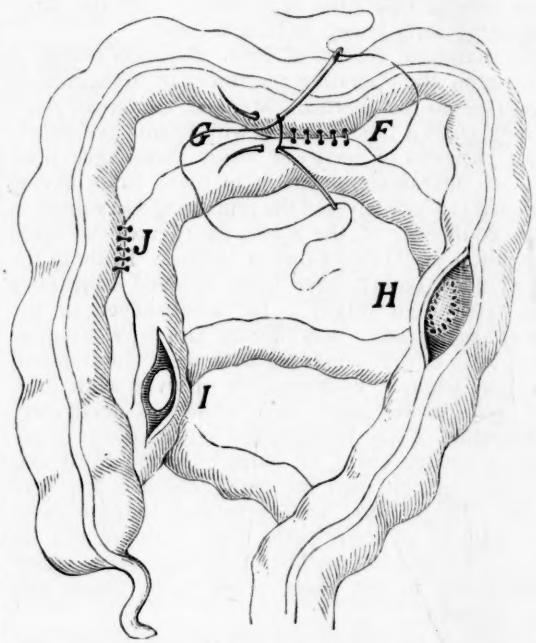


FIGURE 2.—F exhibits the attachment of the exterior surface of intestinal walls. G, needles entered for last stitch in the united coats of the large and small intestines. H is a view of the stitches in mucous membrane through the incision of colon. I is the opening seen by making an incision in the walls of the ileum after separation of segment of both coats. J represents the consolidation of exterior surfaces around the communication between the canals.

The application of this suture is made equally well in the continuity of the intestinal walls or after removal of a segment from each through a doubling of their coats, and effects from without the canal what is proposed by Bishop's suture from within. A single thread having a needle attached at each extremity is passed by the respective needles through the two several approximated walls of the large and small intestine, making a stitch of corresponding length through the whole of the tissues; and then by passing across so as to penetrate on opposite sides at the point of exit, other stitches are made, which draw the exterior serous coats in close apposition. Quite recently I have met with a strong confirmation of the indications for the process of mediate communication in the statement of Mr. T. B. Jessett, in his lectures at the Cancer Hospital in London, as follows: "When the obstruction is caused by the pro-

jection of a cancer into the gut the calibre of the tube may be restored by the breaking down and sloughing of the mass; or the disease extending, adhesive inflammation may take place between it and the adjacent portion of the intestine; ulceration taking place between the two portions, and an opening established, whereby the passage of fæces may occur from the portion of the intestine above the disease to another portion below it."

We may imitate nature in her effort to obviate the difficulty of constriction in the natural course of adhesions and a fistulous communication directly, by adopting the measure for uniting the coats of the intestinal canal above and below the point of stricture, and thus establishing a direct route for the passage of the contents of the alimentary canal by cutting off the obstructed coil of intestine.

The practicability of this procedure is shown in the operation of gastro-enterostomy, which consists in forming a fistulous opening between the stomach and jejunum, as originally suggested by Wölffler. It has been proposed by Billroth to remove the pylorus subsequently, and stitch up the cut ends, thus turning the food entirely through the artificial opening; and a similar operation of a secondary nature would be available for the removal of the ileo-cæcal connection involved in disease. So soon as the direct artificial communication between the ileum and colon is fully established through the opening made by separation of the tissues included in a circular or oval row of stitches, the cessation of the passage through the ileo-cæcal valve must lead to a gradual atrophy of the structures adjoining on either side, and in case of simple stenosis, obliteration of the canal will ensue, while if carcinoma exists, there will be such a diminution of vitality in the healthy attachments as to lessen materially their susceptibility to shock or inflammatory action, so as to admit of the requisite operation for removal of resection and suturing for closure of the divided ends.

A thorough investigation of the morbid conditions of the ileo-cæcal region leads to the following conclusions:

1. That certain modifications are corrected spontaneously, or by the process of resolution under treatment.

2. In the early stage of ileo-cæcal disorders, medicinal or mechanical measures are advantageous.

3. That extra-peritoneal punctures and incisions are beneficial in cæcal inflammation, with or without fæcal abscess.

4. Disorders involving the peritoneum, when not promptly relieved by general treatment, warrant exploratory opening of abdomen.

5. Impediments of the intestinal canal or morbid accumulations in the abdominal cavity, accompanied by meteorism, call for immediate surgical interference, with laparotomy.

6. In case of simple stenosis or malignant growths involving the ileo-cæcal connections, ileo-colostomy is indicated.

7. Gangrenous portions of the intestinal canal necessitate resection, and either direct restoration by suturing the ends or the formation temporarily of an artificial anus.

8. Operative measures in the ileo-cæcal derangements should not be delayed until the physical powers have become prostrated, but resorted to while there is capacity for reaction of the vital forces.

WHY DISEASES OF CHILDREN SHOULD BE MADE A SPECIAL STUDY.[1]

BY MARY HARRIS THOMPSON, M.D.,

OF CHICAGO.

The reasons why diseases of, or in children should be made a special study by the profession, are:

1. Because of the undeveloped and growing patient, which, though ill, must yet be nourished.

2. Because of the difficulty in diagnosticating those maladies, termed by Dr. Billings in his last report of vital statistics, as ill-defined forms of disease to which children under one year of age are subject.

3. Because, remedies considered essential to the relief of adults, are illy borne by the young child, and that those used must be considered in regard to the administration with the peculiar food of the child, the minute dose appropriate to the age, and the susceptibility of the nervous system in the infant to narcotics.

4. Because the special study will reflect itself upon the minds of the laity, impressing them with the importance of saving a child's life, and that, in so doing, a life in its entirety has been saved.

It is presupposed that, as we advance in civilization and enlightenment, health and enjoyment of living, if not wealth will result. Examination, however, proves that health is no more common among the people of to-day, than it was among the people of a hundred years ago. The very beginning of life is injured, first by vices of heredity, and second by the manner of parental living. The end of fœtal life is the beginning of a new one, beset with new dangers.

With the aid of the medical profession and its statistics, knowledge of the great mortality among children in the earlier months and years of life, is just dawning upon the minds of the laity. Although the subject is receiving some attention, there is no attempt to quarantine the vices of the nursery, the orphan asylum, the baby farms, much of the fashionable clothing of the children, the soothing syrups with their seductive amount of opium, and lastly, the the fifteen-year-old nurse-girl, with careless habits, mouldy nursing bottle, and as little practical knowledge of hygiene for the child as she has of navigation. With a cordon around these and the abolishment of the "quiet homes for women during confinement," the advertisements of which are allowed to fill the columns of the daily press; homes which prove too frequently so quiet for the child, for all time to come. we should have hope for a better and stronger race. Thus fortified, and with mothers willing to forego the pleasures of fashionable life and to devote themselves to infants of a healthy parentage, there will remain,

[1] Read in the Section on Diseases of Children, at the Thirty-Seventh Annual Meeting of the American Medical Association.

with the accidents incidental to child-life, enough for us to study.

Let us take a child at six months or six years of age and without syphilitic inheritance. If pulmonary, cardiac, or renal inflammation sets in, do we have the same symptoms by which to make a diagnosis as in adult life? Can we discern rheumatic inflammation for a certainty, in a child of either of these ages, before it has expressed itself in the swelling of some joint, or in the endocardium, and has made a lasting impression on the economy? The difficulties which present themselves in diagnosis are, that we have at six months a little individual susceptible of human disease, but with little more language than that of the lower animals; and with certain organs out of proportion to those of the adult.

At birth there is the large liver, which under the effect of the new physiological action of respiration by the lungs, so frequently produces infantile icterus. There is that condition of chest wall, air cell, and bronchia up to ten years of age which produces the "puerile respiration." Through the same period the bones are so cartilagious that though allowing much rough usage without resulting injury, the long bones frequently bend without any fracture, or partially break causing the "green stick" fracture, or break at the epiphyseal junction. In childhood there may occur injury to the skull which will result in epilepsy or mania in adult life. The simultaneous growth of the brain and nervous system with the other tissues is of such delicate balance and the nerves are so susceptible to the touch of disease in any organ that they may give a storm of action upon trivial causes, thereby, in the convulsions of this age, simulating most grave diseases and rendering a correct diagnosis difficult.

Though diseases *in*, or *of* children have not been a special study with me, a goodly number of the little ones have been placed under my care for treatment, and times have come when necessity has compelled me to pass from works on "theory and practice" to monographs on this particular subject. In consultation with wiser and more experienced physicians, in times of doubt in diagnosis, I have been deeply impressed with the general perplexity in determining which of the wheels in the miniature human mechanism before us, was out of order. In somewhat varied ways, we arrive at a correct diagnosis of the same disease in the different periods of life.

It is a gratification to have men of high culture and great experience, such as Eustace Smith, Goodhart, Barthez and Rilet, our own Smiths, and others, tell us of the difficulties of diagnosis in children. Eustace Smith says: That on account of the indefinite character of the symptoms, hæmorrhage into the brain or its meninges is very difficult to detect, and farther on that a diagnosis between hæmorrhage into the meninges or that into the substance of the brain is probably impossible.

Goodhart says that in pneumonia the sounds of consolidation are transmitted from side to side, particularly about the root with great readiness, and it is quite common in the auscultation of the lungs of children suffering from pneumonia to have evidences of consolidation at one visit which have gone at the next, or within a short time, and which must indicate a still more ready interchange of collapse and expansion than has probably hitherto been appreciated. In mentioning the difficulties of ascultation in children, he says that the ribs are soft and the muscles act more unevenly and the different parts of the thorax expand with comparative irregularity.

In the case of the child, the diagnosis having been made, the *treatment* must next be considered, and changed greatly from that of the adult: this, not only in the size of the dose, but in the manner of administration. The younger the child, the more rapid the effect of the disease. Let me introduce an illustrative case which will show how rapidly disease may appear, disappear, or come to a fatal issue in an infant: C. H. was born in the Chicago Hospital for Women and Children January 31st, 1886. He was a large, healthy, well-formed boy, and although bottle fed, was well until nine days of age. At that date, February 11th, thrush appeared in the mouth and pharynx and was accompanied by diarrhœa with very green, thin, watery stools. For the thrush, the mouth was cleansed immediately after each feeding, and washed with the following mixture:

℞	Sodæ bicarb.	℥ss.
	Acid carbol.	m iv.
	Glycerine and aqua, aa	℥ss.
		M.

For the diarrhœa, the food was peptonized, and the hydrargyrum cum cretâ in one grain doses was given at intervals of three hours, and was followed at night with ol. ricini. in a m. x dose. On the succeeding morning the child seemed quite well. February 12th in the morning the resident physician reported that one arm appeared paralyzed and hung motionless; the child had cried as if in pain and was sleepless. Examination revealed the head of the humerus, dislocated forward. The dislocation was easily reduced and bound in place, for we feared the child had had rough usage from the mother, as she had never welcomed it, but had always appeared impatient. None of the nurses knew how the accident had occurred. The child now ceased crying, and in the afternoon when the arm was unbound, used it as well as ever. On the morning of the 13th, it was reported to have begun a little moan the night before, and as having been restless all night, taking only short naps. We found it with slightly increased respiration, and a temperature of 101 3-5° F., which continued the same throughout the day. Percussion of the chest elicited nothing unnatural. Auscultation gave fine, dry, crepitant râles in the middle lobe of the right lung. There was some mucous râles in the upper lobe of the left lung. A warm bath containing bicarbonate of soda was ordered. The nurses through a misunderstanding added alcohol. This bath was given morning and night. Poultices were applied across the upper part of the chest, and under the right arm. They were renewed every second hour. They were ordered to be made as warm, not *hot*, as the child could bear. Having in view the desirability of giving the medicine in very small doses, in simple form, and with the food, the following was

given: Ammoniæ muriatis gr. x., was dissolved in aqua m. xv. S. One drop in milk every second hour, when not asleep.

On the morning of the 14th, the patient was about the same as the previous evening. The chest was not percussed or examined as the room was cool on account of an accident to the steam heating apparatus, and we feared the malady had been brought on by exposure by the mother, and possibly by us in reducing the dislocation. The child died at one thirty o'clock on the morning of the 15th, just a little more than forty-eight hours after the lung trouble had been recognized, and two hours after taking a usual quantity of food, with natural relish, and appearing more than ordinarily bright, and then sleeping as in health.

Examination of the chest and abdominal cavities was made nine hours after the demise. The digestive organs were healthy as were their contents. The right pleural cavity was so completely full of a reddish straw-colored serum, that it welled out upon the first break of the pleural sac when opening the chest at the highest point, and was estimated to be several ounces. The costal pleura was of a dark pink color; the pulmonary pleura was of a more opaque white and very slightly mottled, with large spots of a darker tint, but with a more transparent appearance of the membrane. Otherwise, the lung seemed normal with the exception of an apparent cyst, partially embedded in the parenchyma, and now about to burst the greatly attenuated pleura. When it was opened, about one drachm of perfectly transparent, thin mucus flowed from it. This cavity was formed by the rupture and coalescence of the air cells, leaving a direct communication from one of the larger bronchiæ to the pulmonary pleura. There was no congestion around this cavity; no staining as if small capillaries had been lacerated, no fringed appearance to the naked eye. There was no cyst wall, no thickening of bronchial tubes.

Had the child died immediately after the feeding, it would appear as if the quantity of food in the stomach, might have added *its* pressure to that of the already existing, and rapidly effused fluid in the chest, and so have been one factor in causing the death, but the stomach was nearly empty.

Queries: Had the pleurisy existed only forty-eight hours, and with this result? Was the pleurisy the result of the pneumonia or *vice versa?* Or did they begin simultaneously? The lung was not greatly compressed as in adults in even acute cases of pluerisy. Shall we ever so understand diseases of children, that upon approaching a very sick infant, we shall not feel as if we are approaching a mystery forbidden us to know?

In child life, there is one grave effect of some maladies, that is greatly to be dreaded. It is that of deformity. In many instances, it leaves the child as a care, or burden to the whole family. It is true, that it may be in some cases a pleasurable one, and in some, there may be a moral compensation for the misery entailed upon the sufferer and friends, but it too frequently warps the mental, as well as the physical powers.

Some years since, it became my duty to treat a young woman of sixteen summers, who was said to have had spotted fever at six years of age. The head was developed to the age of sixteen; the chest was but partially so. There was a twisted condition of the spine, from a lateral and posterior curvature caused by a *development* of portions of the muscles, and a *paralysis* of others. The lower portion of the body had grown but little since her illness in early childhood. She lay upon her wheel chair, or couch. A fortune had been spent on jackets and corsets for the curvature, and electrical treatment to develop *muscular* action. One sister had given nearly her entire time for the comfort of this child, during the period of ten years; and the family had cared for the two sisters. This young woman, while a beautiful character, never seemed to *live* in the full sense of the word. She could neither laugh nor cry in a natural manner. She was taken ill with inflammation of the larger bronchi. With a natural condition of the chest wall, there would have been no danger; but when bronchorrhœa set in, in the second stage, she was unable to make more than feeble attempts to cough, because of paralysis of the intercostal and other muscles, and almost immovable chest-wall; hence her sudden demise from asphyxia from occlusion of the bronchi.

The maladies of either adult or child life cannot well be considered with a view to successful treatment, without first studying their origin. By so doing, we learn in what way, the laws of hygiene have been violated, and approach the millenium in the practice of medicine. However, we are, as yet, far from the goal of complete success. Though Koch, with the bacilli of cholera, and Pasteur with those of hydrophobia have made great strides, yet cholera still makes its periodical visits, and inoculated patients still die of hydrophobia. It has not been altogether determined whether septicæmia is produced by bacteria or ptomaines, the latter supposed to be the result of the former. There seems to be some doubt even as to the real origin of typhoid fever. It is a question with me whether some minor affections such as anæmia, leucocythæmia, and leukæmia may not be the result of micro-organisms in the blood. Cases of these classes have come under my observation in such ways as to prompt me to learn if some special manner of living had induced them. In two recent cases it proved to be dark, damp rooms, in which the patients not only slept, but lived during the day. These recovered with the use of iron and constant sunlight.

A rather curious, but interesting case was that of a little girl four years of age. Her parents lived in a desirable residence region; but she slept in a room on a damp court. The face became pale, and there was a loss of appetite. She suddenly became lame, or, as she expressed it, her arm would hurt her. Upon examination, the arm or leg would be found swollen from a certain point downward. The greatest point of swelling would be marked by a large ecchymosis of a dark purple color, as if the result of a bruise. There was an elevation of the ecchymosed spot above the general surface, as if produced by a large flat clot

in the subcutaneous tissue. In the course of a week or ten days, the color would change to a greenish red, then to reddish yellow, then gradually fade to the natural color, the œdema disappearing with the change in color. The heart beats were weaker than natural, but slightly increased in frequency. Within two months, these spots appeared and disappeared several times upon both upper and lower extremities. Though taking iron and quinine in large doses, she did not wholly recover until she lived in sunny rooms and slept in those sunned by day. Her food had been good. Was this malady produced by micro-organisms, allied to the malarial plant and generated in the dark, damp court of a high building? Her sisters showed no symptoms of the same disease, yet lived as she did.

Let us ask for more knowledge in regard to the *hygienic* treatment of children, which, if systematically followed, would be a *great power* in our hands. Should there be baths, or no baths? If baths, what kind? Should there be exercise, or no exercise? What kind of food should be taken and how?

It is all important that the character of food be changed for certain wasting diseases, as, in this condition of *growth*, if the child be deprived of food, by a lack of it, or by a diseased condition of the digestive apparatus, the result to the child is as disastrous as that of hæmorrhage is to the adult. Many a child literally dies of starvation, when the cause of the death is said to be ileo-colitis, or gastritis, or perhaps some disease not touching the alimentary canal itself. Yet had the physician given special directions regarding the food, the child might have recovered. Probably all have had cases of pertussis where children would throw off the food with a violent fit of coughing, and fade and grow thin if the meals were not immediately repeated.

Paradoxical as it may sound, children are often starved by what is called "good living." A full diet is allowed at a time when it produces so much irritation, as to cause an extension of some existing inflammation, or start a new one. For instance, a child of three summers with severe dysentery, which had recurred just two weeks after a former attack, was allowed not only the full diet of vegetables, pastry and fruit of the parents, but also full goblets of ice water. It died on the fourth day.

Another child of five years, with acute gastritis, a parched tongue, great thirst, nausea and vomiting, had all food by mouth discontinued. Only a few drops of water, perhaps a fourth of a teaspoonful, were allowed every fifteen minutes, an amount which might be absorbed before it reached the stomach. Nutritious enemas were given during a whole week; the boy recovered. The eruptive fevers of childhood have not been referred to, as their effects are as deleterious in the adult as in the child, except if deformity occur in childhood it is to be the longer borne. In these cases, however, when the exanthemata appear in full blossom upon the mucous membrane of the alimentary canal the only direction in regard to feeding should be to give the food in liquid form.

I cannot drop the subject of diseases in children, without reference to two remedies which are probably as old, if not older than any others in the pharmacopœia. They are opium and alcohol in their great varieties of form. Reference to them is made in order to raise the question if they cannot in any way be replaced. Administered once or twice, or for several days, for the relief of pain, opium may be most acceptable; but it is too frequently given before pain, the kind monitor, has made us understand in *what* way the economy is suffering. Again, if we allow the pain to continue until its source is found, the cause may be removed without the deadening opiate. The opiate is given to *quiet*, the alcohol to *stimulate*. The opiate proves to be the stimulant to many constitutions unless given in dangerous doses. If it be necessary to give opium for *acute* pain, it is certainly necessary for that pain which exists a long time. Twenty years ago it was regarded as *the* remedy in puerperal diseases, especially septicæmia; but it seemed to me that many patients died of the remedy instead of the disease. To-day many children die of the remedy instead of disease. Others live to recuperate after a *long* time, from a shattered condition of the nervous system, and an unnatural condition of the circulation, both having been induced in a measure, by the opiate.

Alcohol first stimulates, then quiets, leaving the system under great depression, and with a desire for further stimulation. In time vitality is lost. I am hoping to find in the new remedies, something which will not lead the patient into a condition of servitude, as do opium, alcohol, cocaine and chloral. Heat, an old remedy, will in many instances take the place of opiates and alcoholic stimulants. When applied to a part it increases the circulation in the capillaries of that part. When first applied it relaxes the wall of the capillary, thereby increasing the size of its lumen, allowing the collecting blood cells to pass on, and so causing the pain to cease. Opium, taken into the stomach, "slows" the whole circulation. If to quiet a local pain, the whole circulation is decreased below the normal standard, the whole economy suffers therefrom. If the circulation is increased when stagnation is occurring and producing pain, the relief is secured in a more natural manner, the secretions are not checked, and the materies morbi pass out of the economy, doing but little harm. I have used heat, applied externally, for pain in the chest, abdomen and pelvis. Even in diphtheria, when the tissues around the neck were swollen to their utmost, heat has relieved the pain speedily.

If obliged to use alcohol, let us, in the treatment of children, intentionally make it unpleasant. But if we cast about, we can often find that which *will* take its place. Let us use ammonia, heat, or *any* remedy, that will not dwarf the growth, through the nervous system, as *opium* does; that does not form in the child an uncontrollable appetite as alcohol or opium does if continued for any length of time; an appetite which the full force of a *man* cannot break.

A NEW POISON CASE.

BY G. W. WEBSTER, M.D.,
OF CHICAGO.

Cases of poisoning, either accidental or otherwise, are, unfortunately, quite numerous and very many of them are fatal. The treatment, in order to be successful, must be precise, energetic and prompt. In many cases, especially in the country or small towns, it is often difficult and many times impossible to procure the proper antidotes or remedies in proper form for administration, or even to obtain them at all. Then, again, not every physician carries in his mind a precise knowledge of the symptoms of all or even the important poisons, together with the proper antidotes, remedies and treatments.

In order to overcome these difficulties at least in a measure, I have designed the following described case:

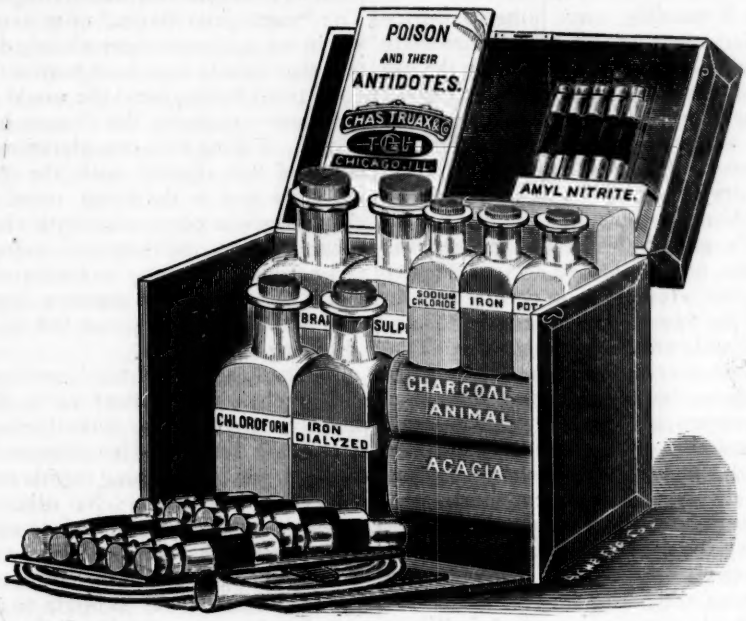
It contains a stomach tube, hypodermic syringe, and the following remedies and antidotes: Ether, ammonia carbonate, amyl nitrite, apomorphia, atropia sulphate, brandy, camphor, animal charcoal, chloral hydrate, chloroform, digitaline, iron sulphate, dialyzed iron, tr. of chloride iron, calcined magnesia, mucilage, morphia sulphate, potassium bromide, potassium iodide, liquor potassæ, strychnia acetate, sodium chloride, sulphuric acid, tannic acid, and zinc sulphate.

The case also has a small pamphlet, compiled by the author, which gives a summary of the general treatment of poisoning, together with a list of substances which are poisons, with the prominent symptoms and treatment of each.

Each bottle is labeled with the name of the drug, the dose, how administered, and in which cases it is most serviceable. I do not assume to offer anything new in either methods or remedies, but only to have the latter in a convenient form for immediate use.

Messrs. Charles Truax & Co., 81 Randolph street, Chicago, manufactured and filled the case for me, and succeeded in making a very desirable case, one that is neat, compact and durable.

1920 Indiana Ave., Chicago.



INHALATIONS OF MURIATE OF COCAINE IN WHOOPING-COUGH.

BY A. Y. P. GARNETT, M.D.,
OF WASHINGTON, D. C.

In the *Medical Record* of July 31st, we find a résumé of the most modern methods of treatment for this disease, embracing a brief notice of the remedies used by several German, Spanish, French and Brazilian practitioners of distinction, with reported results as late as the present year; each claiming for some particular agent, specific virtues in modifying or curing this intractible and distressing malady.

Whilst the remedial agents employed by these gentlemen differ materially in their therapeutic results and topical effect, their use has obviously been predicated upon the theory that the disease is purely a local one and amenable to local treatment only. Hence we find insufflation through the nostrils, sprayings and pencilings to the throat and pharyngeal surface, the principal methods adopted for the topical application of these remedies. In one instance only have we observed the practice of inhalation mentioned and that of Dr. P. Sertoli reported in the *Revista Clinica è Terapeutica*, of June, 1886.

This writer extols the effects of iodoform and spirits of turpentine in whooping cough and claims that by the use of these remedies through inhalation he was able to diminish both the frequency and severity of the attacks. In January last I had under my care two cases of pertussis, one a child of five and one of two years of age. The children were seen,

one in the second and the other in the third week of the attack, both suffering with all the distressing phenomena incident to a full development of this disease. Many of the ordinary and some extraordinary remedies had been used without in any degree mitigating the severity of the paroxysms. Sympathizing with the unhappy mother, as well as the little sufferers, I resolved to employ, if possible, some hitherto untried agent that in my judgment might afford immediate relief. With this view I determined to try the use of hydrochlorate of cocaine by inhalation, and in order to procure it in a form sufficiently volatile to be readily vaporized selected chloroform as the solvent. A six per cent. solution of muriate of cocaine in chloroform was prepared and ten minims poured in a wine glass made warm by tepid water was placed under the patient's mouth, whilst the mother was directed to keep the nostrils closed. No difficulty was experienced after a few trials in getting the patient to breathe in the vapor, which seemed to produce rather an agreeable effect than otherwise. This practice was repeated every four hours and whenever it was possible to do so, immediately preceding or at the outset of a paroxysm of coughing, in the latter instances using double the dose of the solution. It was found that by this means many of the paroxysms were arrested entirely or materially cut short, and, although the treatment seemed to fail in curing the disease or shortening the usual period occupied by its three stages, it certainly altered and mitigated the severity and distress of the paroxysms.

The present epidemic of whooping-cough in Washington, which commenced in the month of June has afforded me ample opportunity of multiplying my experiments with the use of the chloroform solution of cocaine, the result of which has confirmed the conclusions, of its marked effect, arrived at with my first two cases in January. Some difficulty is usually encountered in administering the remedy by this method with very young children, in which event the ten or twelve drops may be poured upon a handkerchief, which can be substituted for an inhaler, the latter instrument being easily managed by elder children.

Whilst I am aware of the popular theory which attributes the origin of pertussis to the presence of specific micro-organisms or parasites, and recognize its power of self-propagation and contagious character, I am inclined to regard it as entirely a neurosis, tracing the initiatory morbid impression or manifestation to those nerves which are distributed to the laryngeal mucous surface, resulting at first in functional disturbance of the vaso-motor nerves, impaired innervation and local irritation; that this condition, although resembling in its pathological and physical features ordinary catarrhal affections of this organ, is essentially different and due to some specific cause, is shown by the fact that ordinary laryngitis and bronchitis are never attended with the pathognomonic spasm of whooping-cough. The additional evidence of its nervous origin and complications, especially with the pneumogastric, may also be found in the distressing vomiting which accompany the paroxysms of coughing. The hyperæsthesia, hyperæmia and turgescence of the mucous lining of the larynx and trachea consecutive to and consequent upon the primary nervous disturbance, in the second stage, is followed by a metamorphosis of cell products, copious secretions and slight tissue changes. The bacteria, micrococci and other micro-organisms found in these secretions, are in my opinion the *post hoc* innocuous products and not the causative agents, of the disease. The "contagium vivum," or materies morbi has not yet in my judgment been clearly demonstrated. The fact that infants have been born with whooping-cough contracted during fœtal life would seem to show that the cause producing this disease is not always extraneous. Taking into consideration the local manifestation of this disease with the morbid conditions which we find in the lining membrane of the upper air passages in connection with the known action of cocaine upon the terminal extremities of arteries and nervous filaments, we are forced to acknowledge that it possesses in an eminent degree the power to fulfil the indications presented in the treatment of whooping-cough.

Topically applied to the inner surface of the larynx and trachea, the sentient nerve filaments are temporarily benumbed or anæsthetized, the peripheral arteries are diminished in calibre and secretion greatly checked, whilst the lining membrane of the larynx is reduced in vascularity. No other remedy yet suggested possesses the capacity to exercise in so potential a degree these several therapeutic desiderata.

In assuming to doubt the correctness of the theory that this disease owes its origin to a specific germ or microbe, I am aware that I expose myself to the criticism of a large number of my professional brethren, since it has become the fashion to attribute every disease to some special or specific micro-organism whose all-pervading and omnipotent influence is not alone confined to the rôle of pathogenesis, but according to some of the more enthusiastic micromaniacs, are essential components of the atmosphere we breathe, equal in life sustaining qualities to oxygen itself. Nothing can be more gratifying and satisfactory to the medical mind than such a theory. It explains everything and furnishes a plausible solution for many of the most difficult problems encountered by pathologists. I have no doubt that these investigations which are now being prosecuted with such ardor and zeal are destined to develop in the domain of microscopy both marvelous truths and phenominal fallacies, either or both of which will be eagerly accepted by the profession at large, and he who may have the temerity to reject either, will in their estimation most assuredly "Write himself down an ass." I think I see in the near future established here in Washington, a National Health Department, with a Bureau of Prophylaxis attached, whence there will be issued daily bulletins warning us of the approach of zymotic or epidemic waves of deadly microbes of yellow fever, scarlet fever, diphtheria, with as much accuracy as the Signal Bureau now predicts the advent of those thermal frigid waves which alternately cremate or freeze the inhabitants of this section of country.

MEDICAL PROGRESS.

SUBLIMATE INJECTIONS IN GONORRHŒAL CYSTITIS.—The history of an obstinate case of gleet and cystitis is given in *El Dictamen* by SEÑOR GARCÌA ANDRADAS, which after being treated unsuccessfully by means of injections of nitrate of silver, yielded very quickly to injections of corrosive sublimate. The patient, who was a river fisherman, contracted gonorrhœa, which was treated for a month with balsams and astringent injections. The discharge then became serous, and exquisitely painful vesical tenesmus supervened, the calls to urinate being so frequent as to give the man no rest. An attempt to pass an instrument occasioned the greatest agony when it came in contact with the prostatic portion of the urethra. The diagnosis made was that of acute prostato-cystitis consequent on gonorrhœa, and so the local application of a sublimate solution appeared to be the most rational treatment, as it had in the author's hands proved very beneficial in cases of subacute cystitis due to the same cause; but it was thought well to try first Guyon's treatment. With great difficulty, owing to the extreme sensitiveness of the urethra, an elastic catheter was passed to the prostatic portion, and 10 grammes of a 1 per cent. solution of nitrate of silver injected. A few minutes afterwards urine was passed with great pain, so a warm bath and an opiate were ordered, which gave only temporary relief, the opium having to be repeated at night. The next day the patient's condition was the same as it had been before the injection. Three or four days afterwards a similar injection was given, with no better result. Four days later, as there was no improvement, the use of sublimate injections was commenced. The catheter was passed as far as the prostate, and 45 grammes of a 2 per mille solution of sublimate in warm water were injected. This the patient was compelled to retain for three minutes; the subsequent micturition was very painful, but at night he was able to rest and retain his urine for three hours. The next day the urine was less turbid, and it was voided less frequently. His condition continued to improve for three days, when a second sublimate injection was given of double the quantity of solution. This occasioned some pain, but it quickly passed of and the patient was able to rest. In four days' time he requested to be discharged, as his urine was clear and he had no pain on micturition. Thus, the author remarks, two injections sufficed to cure completely an affection usually most obnoxious to treatment of an ordinary kind. The superiority of sublimate injections has shown itself in several cases of a somewhat analogous character in which he has employed it. These he proposes to publish and discuss on some future occasion.—*Lancet*, August 21, 1886.

ANTIPYRIN AS AN ANALGESIC IN HEADACHE.—DR. JOHN BLAKE WHITE, Physician to Charity Hospital, New York, says:

During the past two years I have abundantly tested the therapeutic value of the drug known as antipyrin in various forms of headache. The prompt relief obtained through its use compels me to accord to it a high rank among our medical resources. I have already called attention (*Medical News*, July 10, 1886) to the potent antipyretic power possessed by this remedy in the management of various forms of fever, and have observed that after its administration the urgent symptom of headache, so uniformly present in these cases, was soon controlled.

Antipyrin undoubtedly possesses bradycrote properties in a high degree, as the pulse is notably softened and moderated in frequency soon after a proper dose of it has been taken. It produces some somatic change favorable to a reduction of the pulse in cases of fever, and so exerts a calming influence upon the vaso-motor system. The capillaries, through its agency, doubtless dilate, and local congestions are dissipated, as the relieved patient usually sinks into a refreshing repose soon after its exhibition. In the course of large experience with antipyrin I have found that, when administered in masterful doses, it not only promptly relieves the symptom of headache whenever present, whether resulting from disordered digestion, disturbance of the menstrual functions, loss of sleep, undue mental effort, or even that associated with dreaded uræmia, but also possesses reliable prophylactic virtues against recurrent attacks of cranial neuralgia. So confident am I of the power of this remedy to disappoint neuralgic headache when iminent, that I have instructed many patients, who are liable to such visitations, to keep in readiness and take a dose of antipyrin as soon as they have premonition of its recurrence, and all so far testify in favor of its efficacy.

The value of this remedy in the above respect has not only been tested in my hospital and private practice, but I also record the fact that it has proved successful in the hands of professional friends, upon whom I had urged its employment for the relief of neuralgic affections of the head and face. I have been singularly impressed with the promptness of relief which often followed the administration of even a single dose of fifteen grains of the antipyrin. The grateful relief from headache usually ensues within half an hour after the drug is taken. A sense of drowsiness ordinarily supervenes, followed by a brief but sufficient slumber, and the patient awakens quite relieved of this distressing symptom. I have never yet seen the sleep-disposing properties of antipyrin alluded to by any other observer, although this effect seldom fails to ensue when a full dose such as I have named has been taken.—*Medical Record*, September 11, 1886.

A STUDY OF SOME NEW PURGATIVES.—DR. DESNOS has been making a study of the physiological effects of the following four new purgatives: baptisine, sanguinarine, juglandine, and phytolaccine. He has given these purgatives to 48 different individuals in the following proportions: Baptisine to fourteen, sanguinarine to four, juglandine to thirteen, and phytolaccine to seventeen. They were given in pill form in doses of 10, 20 and 30 centigr. (1½, 3, and 4½ grs.). The first dose was administered at 10 A.M. and the second dose at 10 P.M. The four drugs

had the common property of causing no disturbance whatever in the stomach. In some of the cases purgation occurred after the first dose, in the majority of cases not until some hours after the second dose, and in a few cases of obstinate constipation no effect followed until an enema had been given. Baptisine proved to be an efficient cholagogue, and excepting a few failures in patients who were in bed, it showed itself a faithful purgative. The dose employed ranged from 10 to 30 centigr. (gr. 1½–4½). Sanguinarine did not fulfill the expectations derived from experiment with that drug. The author has given it in as large a dose as 60 centigr. (gr. 9) with negative results only. Juglandine exhibited marked cholagogic properties in doses of 10 to 20 centigr. (gr. 1½–3). Phytolaccine is also an efficient cholagogue in the same doses as the preceding. The author prefers it to all the others. It produced easy and copious stools containing considerable bile. In large doses it provoked vomiting, followed by depression, and in a few cases even by convulsions. In conclusion, the author states that baptisine and juglandine are destined to render incontestable service as laxatives in spite of some inconveniences, and that phytolaccine, being most certain and attended with fewer inconveniences, will form a valuable acquisition to the therapeutics of constipation. Sanguinarine, on the other hand, does not deserve to come into favor.—*N. Y. Medical Journal*, Sept. 11, 1886.

COCAINE POISONING.—Dr. Lucas Champonnière's *Journal de Médecine et de Chirurgie* for last month devotes an article to cases of poisoning by cocaine, based on researches of M. CHATELLIER. The employment of the valuable remedy is not contraindicated by the occasional manifestation of toxic effects, nevertheless it is important to know them. In a case cited by Dr. Speer, a man was in the habit of self-injecting cocaine to combat the effects of drunkenness. The action closely resembled opium poisoning, but the patient recovered under appropriate treatment. A woman, aged 25, to combat hay fever, had a watery solution containing 15 centigrammes of hydrochlorate of cocaine injected into the nose. In about twenty minutes she became giddy, was oppressed by a sense of weakness, and could not see distinctly. A little later she was in a semi-comatose condition, pulse not countable, slight dyspnœa, pupils dilated. These symptoms disappeared in the course of three hours under the influence of internal stimulants and external friction. Dr. Ziem, of Dantzic, reports that he injected under the conjunctiva of a man, aged 40, 2 drops of a 40 per cent. solution. In the course of a few minutes the patient became pale, the forehead bedewed with sweat, and respiration embarrassed. He states that seventeen cases of cocaine poisoning have been reported by oculists. In three the agent was injected hypodermically; in fourteen merely into the conjunctival cul-de-sac. The usual symptoms are pallor and clamminess of the face, vertigo, and great prostration, sometimes lasting for days. Headache and vomiting are infrequent. In one case, after sub-conjunctival injection of 15 drops of a 2 per cent solution, the gait became uncertain, articulation indistinct, and memory lost. In another case subconjunctival injection of 8 drops of a 3.5 per cent. solution produced loss of consciousness and convulsions. M. P. Tissier relates the case of a child, aged 4, affected with whooping-cough and coryza, whose nasal fossæ were pencilled with a 1 in 30 solution of hydrochlorate of cocaine. In the afternoon the eyes became distorted and the child convulsed, but these symptoms disappeared without treatment.—*Lancet*, August 21, 1886.

SALICYLATE OF LITHIUM.—PROFESSOR VULPIAN remarks that this salt is as efficient in acute rheumatism as salicylate of sodium, and, further, that it is also efficacious in acute gout. In a great number of cases of acute rheumatism salicylate of sodium relieves the acute pains, but the joints remain slightly painful and difficult of movement. In these cases salicylate of lithium substituted for the sodium salt will complete the cure. Again, in those cases of acute rheumatism in which the fibrous tissues seem most implicated the lithium salt will be found more beneficial than the sodium salt. In that form also in which the subcutaneous tissues seem involved, salicylate of lithium has proved more useful than any other drug. Even in chronic rheumatism in which the joints are deformed and partially ankylosed, salicylate of lithium has shown itself of some value.

For an adult the dose should be 4 grammes (℥j) per diem, which may gradually be increased to 5½ grammes (℥iv, gr. iij). Larger doses are followed by symptoms of intolerance. Salicylate of lithium is soluble in water and has a pleasant taste. It contains more salicylic acid, proportionately, than salicylate of sodium. Like the latter salt, its administration is attended with unpleasant symptoms, which, however, do not attain to the same degree. These consist of a more or less severe headache, dizziness, and difficulty of hearing, without noises in the ears, as in the case of the sodium salt. Occasionally it produces colic and diarrhœa—symptoms never observed with salicylate of sodium. The latter symptoms must be attributed to the lithium and not to the salicylic acid.—*N. Y. Medical Journal*, Sept. 11, 1886.

TREATMENT FOR HYSTERO-MANIA.—DR. A. L. HODGDON, of Farmwell, Va., says: The following formula I have found useful as a calmative in hystero-mania (hysterical insanity):

℞	Extr. cimicifig. fluid	℥ jss
	Extr. vibur. prunifol. fluid	℥ j
	Extr. conii fluid	℥ j
	[1]Tinct. cannab. indic.	℥ iss
	Syrup	℥ x M

Sig.—Two teaspoonfuls three times a day, and see that its components are thoroughly mixed before exhibiting.

Two of the ingredients of the formula before mentioned—the hemp and the hemlock—are of notoriously uncertain strength. Hence the proportion of each of these drugs to the rest of the prescription must always be governed by their respective strengths, and the mixture should never be administered excepting with extreme caution, carefully watching its effects.—*Maryland Med. Jour.*, Sept. 18, 1886.

[1] The tincture of hemp used in the formula was made from the English extract and alcohol, in proportion of ℥i of the extract to ℥ii of alcohol.

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THE EDITOR OF THIS JOURNAL would be glad to receive any items of general interest in regard to local events, or matters that it is desirable to call to the attention of the profession. Letters written for publication or containing items of information should be accompanied by the writer's full name and address, although not necessarily to be published. All communications in regard to editorial work should be addressed to the Editor.

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TUMORS OF THE BLADDER, AND THEIR TREATMENT.

In Volkmann's *Sammlung klinischer Vorträge*, Nos. 268–269, is a most interesting article on this subject by PROFESSOR ERNST KUESTER, of Berlin. Vesical tumors may be conveniently classified under the two heads: Neoplasms of the Prostate, and Neoplasms of the Bladder-wall; and of the latter we may distinguish three great divisions: First, those arising from the mucous or submucous connective tissue; second, those arising from the muscular layer of the bladder; and third, neoplasms of the epithelium and glandular structures of the bladder. We may also say that there are three subdivisions of the neoplasms arising from the mucous or submucous connective tissue of the bladder-wall: *First*, the papilloma of Krämer or the fibroma papillare of Virchow, which is certainly the most frequent of all the tumors of the bladder, and may appear singly or grouped. When single they are more frequent in the fundus vesicæ, then in the trigonum, and finally in the lateral walls, near the ureteral orifices. In very rare cases they have been found in other parts of the bladder, but then mostly as groups, several small ones being found around one large polypus. We need not here go into the microscopical details of the papillomata, which are given so elaborately by Küster.

In the *Annals of Surgery*, for September, 1886, Mr. C. J. Colles has written a most admirable review of this question of tumors of the bladder in connection with Küster's paper. It will be remembered that Sir Henry Thompson has described a transition form of vesical papilloma (to a malignant growth), which is characterized by rich vascularity and cell-infiltration in the tissues around its base, which is probably due to inflammatory irritation. The villi are so delicate that the stream of urine during micturition is sufficiently strong to tear them away and cause frequent hæmorrhages. "The delicate construction of the inadequately supported walls of the blood-vessels in these villi is often also the cause of hæmorrhages. Every contraction of the bladder-muscles must compress the blood-vessels at the base of the villi, producing, consequently, hyperæmia of these, and leading easily to rupture of blood-vessels. These formations, by becoming incrusted with urinal salts, may deceive one as to their real nature, as they are often taken for vesical calculi." Papilloma, as we know, is more frequent in males than in females; and this is probably due to the greater and more frequent irritation to which the bladder of the male is subject from the extension of inflammation from the urethra, any it may also be partly due to the greater difficulty in urination among men of middle and advanced age than among women of the same age; and this theory is supported by the fact that most cases occur between the ages of 30 and 60 years.

Fibrous polypi and myxomata are tongue-like or bulbous formations occurring in the region of the neck of the bladder and its base; not occurring in groups, as papillomata, but seem to be spread out over the mucous surface. They seldom cause hæmorrhages, as they are comparatively tough in structure. They occur most frequently in children. Sarcoma of the bladder is very rare, only five cases having been carefully observed and described. It usually occurs in females, as was the case with the five cases just alluded to.

Of the neoplasms arising from the muscular layer of the bladder Robert Knox first described, twenty-four years ago, and recorded a case of myoma. It was not until ten years ago, however, that a case of undoubted myoma of the bladder was thoroughly described, by Volkmann. The tumor was a considerable distance from the prostate, a fact which excludes any possible connection with this gland; and in the cases published previously there was some reason to suppose that the tumor was in some way connected with the prostate. In structure these tumors closely resemble myomata of the uterus. Five years ago Dr. W. T. Belfield found, by accident, myoma of the bladder in two dead subjects.

Under neoplasms of the epithelium and glandular structures of the bladder are included adenoma, carcinoma, and dermoid cysts; of these it is only necessary to speak of carcinoma. "Clinically carcinomata of the bladder are not distinguishable from those of

the prostate, so that the latter will have to be considered in this group. Careful study only of the microscopical structure will reveal the real starting-point of the tumor. This latter is of importance not only from a pathologico-anatomical standpoint, but also as regards the diagnosis and the therapeutic measures to be undertaken." It would be of vast importance, says Küster, if Kleb's assertion were true, according to which all carcinomata of the bladder originate in the prostate gland; by which a primary tumor of the fundus of the bladder in a female subject could not possibly be a carcinoma. The appearance of this form of tumor in the region of the neck of the bladder in male patients will naturally arouse suspicion as to its origin. There can be little or no doubt that many of the cases of so-called carcinoma of the bladder are but secondary growths from the prostatic carcinoma; but it must be admitted at the same time that primary carcinoma of the bladder does occur; and we may agree with Küster in thinking that it would be very remarkable if the mucous surface of the bladder, which is so much exposed to irritation, should be so very different from other mucous surfaces as not to be subject to carcinoma. Indeed, Bode has shown that primary carcinoma of the bladder in females is not so very rare, as there were 14 females among his 30 collected cases. "The form of carcinoma most frequeutly met with here is the papillary, although the medullary form is not seldom seen, cases of the latter having been recorded by Marchand and others. The cancroid form has been often observed by Thiersch, Paget, Winckel, and Thompson, and the alveolar carcinoma, with its singular tendency to colloid degeneration is also occasionally found. All these forms of carcinoma, including also the glandular form occurring in the prostate, develop first as flat circular protuberances on the mucous surface or as more deeply lying lumps with a smooth surface, immovable over the tumor. Various changes in their appearance soon occur, in consequence of the irritation to which they are more or less exposed. Hæmorrhages soon follow, but in many cases precede the development of a cancer. The surface epithelium becomes necrotic and falls off, allowing the urine to come directly in contact with the badly nourished cancer-body which is prone to regressive metamorphosis. Putrid decomposition of the urine follows, producing rapid necrosis of larger or smaller portions of the tumor, keeping the former, in spite of frequent micturition, in a decomposed state. Cattarh of the bladder is the result, and the hyperæmic mucous membrane is consequently prone to hæmorrhages. The mucous layer of the bladder is soon attacked, its hypertrophied condition, however, generally preventing rapid perforation. Through extension of the purulent inflammation upwards the kidneys become involved, and death soon intervenes."

In a very large number of cases tumors of the bladder develop without marked symptoms, and their existence may not be suspected until a patient, hitherto believed to be perfectly healthy, begins to pass bloody urine. We say *suspected*, for it is important to differentiate hæmorrhage from the bladder from that proceeding from other portions of the urinary tract. In cases of renal hæmorrhage the urine and blood are generally evenly mixed; but this may be the case when slight hæmorrhage of the bladder has taken place and the blood remained in the bladder long enough to be thoroughly mixed with the urine. In the early stage of tumors of the bladder the stream of urine is at first ordinarily clear, but gradually becomes bloody, and finally the stream is only pure blood. The passing of particles of the neoplasm with the urine is a very important symptom, and very large quantities may be passed in a short time. It seems scarcely necessary to say that a microscopical examination of these particles will determine the nature of the tumor. Other symptoms are disturbances in urination, slight or severe pain, frequently a heavy, bearing-down sensation in the perineal region, and a frequent desire to go to stool. Of course there is catarrh of the bladder after the disease has existed for some little time, accompanied by chills and fever. "The general form and consistency of a tumor of the bladder may be usually determined by palpation above the symphysis and through the rectum, in women through the vagina. The introduction of instruments should be undertaken with care, as catarrh often results from this procedure." The catheters should be thoroughly asepticized, and the glans and orifice of the urethra should be thoroughly cleansed in every case before introducing instruments. A good instrument is a catheter having a long opening near its extremity on the under side, which may be used as a scoop, pulling off portions of the tumor. Little, if any, bleeding will be caused by this instrument. As a means of further diagnosis endoscopy may be employed. Mr. Colles seems to attach but little importance to digital examination of the bladder in these cases, which, nevertheless, must be regarded as most important, as has been shown more recently by Dr. Belfield (see THE JOURNAL, Sept. 4, 1886.)

Even benignant tumors of the bladder threaten the life of the patient, and they should therefore be removed. A tumor with a thin pedicle may be twisted off, as has been done by Volkmann; or they

may be removed by means of a scoop passed into the bladder along the finger, as is done by Kocher. There is considerable danger of injury to the bladder and other parts attending the use of Thompson's denticulated forceps. Sometimes, especially in females, we may draw down the tumor far enough to see plainly its point of attachment on the vesical wall, in which case it may be cut off and the wound closed with sutures, so as to prevent hæmorrhage. If the tumor be favorably situated this may be done by dilating the urethra in the prostatic portion after a median incision. There are many cases, however, in which it will be necessary to open the bladder above the symphysis, or through the vagina. "Epicystotomy is without doubt the best of all methods of removal in both sexes, and gives the most complete survey of the interior of the bladder." As now performed, by filling the bladder with some aseptic fluid before the operation, or making the incision slowly and carefully, dividing the tissues layer by layer, there is no danger of wounding the peritoneum. Petersen injects from 400 to 600 grams of fluid into the bladder and then introduces a colporynteur containining about 400 grams of warm fluid into the rectum, which forces the bladder up over the edge of the symphysis, and thus almost precludes the possibility of injury to the peritoneum. To prevent infiltration of urine into the surrounding tissues careful drainage must be carried out; the urine must not be allowed to collect in the bladder and flow out through the wound. A good method of drainage "is to pass a rubber tube, having lateral apertures, through the wound and out through the urethra; at the same time plugging up the abdominal wound with pieces of iodoform mull."

Guyon's use of the thermo-cautery seems to have, thus far, but little to recommend it; the wound will be long in healing, and will prove a source of catarrh. Küster prefers an elliptical cut around the tumor, and then uniting the edges with catgut sutures. In dealing with deep-seated tumors we may employ Trendelenburg's method, which consists in suspending the patient, head downwards, by his legs over the back of an assistant, and turning towards the light so that it shines directly into the bladder when the edges of the wound are separated. The viscera sink, and the parts hid behind the symphysis come into view. Schede has shown that a catheter may be placed in each ureter, to carry away the urine and prevent its collection in the bladder—a very important point in the after-treatment of these cases. Thin, elastic bougies are probably better for this purpose than Simon's metal catheters.

PRACTICAL IMPROVEMENT IN THE ORGANIZATION OF THE AMERICAN MEDICAL ASSOCIATION.

Observations during the recent meeting of the British Medical Association demonstrated the decided superiority of having a smaller number of addresses read before the whole body in general session, and those prepared by parties appointed solely for that purpose, while the President of each Section read an address before his own Section. It was very evident that one well prepared address was listened to with greater attention and by a larger number than would have been two or three in succession at each general session. Again, if there be but one address on the programme for each general session, the certainty of its being listened to and perhaps criticised, stimulates the writer to greater care and wider research in its preparation.

The fact that the annual meetings of the American Medical Association continue, like those of the British Association, only four days, and but one general session each day of about three hours, shows that not more than one hour each day can be devoted to an address and leave any adequate time for the transaction of general business. And as the hour of the first day's general session is occupied by the address of the President of the Association, but three important addresses can be properly provided for in the three subsequent general sessions. And yet the by-laws of the American Association provide for eight Sections, and the Chairman of each is required to deliver an address in the general session on the topics embraced in the Section over which he presides. This makes three addresses for each of the general sessions of the second and third days, and two for the fourth, which is so obviously wrong that a change is demanded.

During the last two or three annual meetings no less than three of these addresses have been crowded into the general session of the last day, and none of them read much beyond their titles. Such results are unsatisfactory and unjust to all the parties concerned. On the contrary if the Chairman of each Section was required to prepare the same kind of an address as at present and deliver it in his own Section, not all at the same hour or necessarily on the first day that the Section meets, but as far as practicable at different hours and days specified on the programme, thereby giving opportunity for the largest number to attend the Sections at these times, it would contribute much to the interest of the work of each Section, and increase the number in attendance. Such appeared to be plainly the practical result of

the plan in the British Association at Brighton; and we commend the subject to the consideration of the committee on improvements in the plan of organization, appointed at the annual meeting in St. Louis, in May last.

SOCIETY PROCEEDINGS.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, Sept. 20, 1886.

J. F. TODD, M.D., SECOND VICE-PRESIDENT IN THE CHAIR.

DR. N. S. DAVIS gave his

IMPRESSIONS OF THE BRITISH MEDICAL ASSOCIATION.

An abstract of his remarks is as follows:

The British Medical Association held its recent meeting at Brighton, the most fashionable and desirable watering place in England, very favorably situated for such a meeting of the profession of that country, being accessible to London as the great central point and having accommodations that probably cannot be found in any other town or city of moderate size in Great Britain. The British Association impresses one as being a body of men more advanced in life with more solidity than our assembly, not more intellectual development but more of what you might call sturdy physical development. Indeed this impression of solidity is forced upon the mind about everything. We excel them very much in exterior ornamentation, variety of architecture and in a great many ways, but for an impression of solidity and steadiness without haste, as an ordinary rule they excel us.

The British Medical Association is not a representative body in any sense, but was composed originally much after the fashion of calling together an assembly, organizing a national body and selecting a certain number to constitute a council and submitting the business affairs to the council. Subsequently a rule was adopted by the original council qualifying the profession in any given locality to form a local society and adopt such rules as were not in opposition to the constitution and by-laws of the national society; these societies were recognized as Branches, and each member of a Branch became nominally a member of the general body with the right to attend the general meeting, but they are not entitled to take part in the general government. They may elect one, two or three members of the council, so that as Branch after Branch has been organized, and the membership increased, it has greatly enlarged the council, until, I gather from the proceedings of the Association the council of the British Medical Association numbers seventy-one. This council has the entire control of the organization; they determine the places of meeting, and all matters in reference to the workings of the organization come before them first. Certain matters are brought before the general body at their meeting for their sanction, but they must originally go through the council. The council has at least four stated meetings in the year; they meet every quarter, and if business of importance is to come before them they may have other meetings. At the annual meeting of the Association the programme is so arranged, that when they open at half-past twelve (they do not hold sessions in the forenoon), the council holds an hour's session, that is the meeting of the council of the preceding year. New members of the council are elected by the Branches yearly, so that new members come in each year and others go out, and the council is not always made up of the same parties. Following this meeting, two o'clock is appointed as the time for the meeting of the general body, but that did not occur this year; it was crowded out. At a subsequent hour we had what they call the council of the present year. The first meeting was the council of 1885, the next, council of 1886. The Sections held no meetings the first day. I watched the proceedings carefully with special reference to learning what might be of use to our own National Association. One of the complaints made against us is that we lose too much time in eating and drinking, and social occasions, and too little advance is made in real science and professional knowledge. The meeting of the council was held with closed doors. This peculiarity runs through everything, the council not only prepares the reports on business matters, but when they are submitted to the general body the council designates the man to move its adoption and the man to second motion. I do not think that would be tolerated in America over one meeting, but it is a uniform, regular custom there and they seem to take it very easy.

The three Sections that had the largest attendance were Medicine, Surgery, and Public Medicine. They have the same trouble there as here, there is a certain class always coming and going. They come in and sit down, and if at a little distance they can't hear very well, they sit a little while and don't get enough of the run of the thing to interest them and they go to another Section, so they are always moving about. Of the Pathological and Laryngological Sections, one was held in the bedroom of old King George and the other in his china closet, a cupboard capable of seating not more than twenty or thirty people, and these seats were not full. While the attendance does not exceed our attendance there is about the same shifting and changing as at our general meetings. But the papers that were read had this characteristic to a greater degree than can be said of the papers as a whole with us, those who read papers had taken more pains to prepare them carefully and to make them cover the ground fully. They had spent more labor in their preparation. There was another feature—until the last three meetings there has not been any attempt with us to have parties informed of what particular papers are to be read in any of the Sections, so that they might be prepared to lead off in the discussion of the papers. In 1883 in the Medical Section there had been pains taken to do this; certain papers were to be read, and several parties in different parts of the country were informed that a paper would be read on a certain subject and they were as-

signed to lead in the discussion. The idea was to make the discussions of more value. This same course has been taken in a limited degree in our meetings since. It is a general practice in the British Association. The officers of the Sections when they learn what papers are to be presented judge as far as practicable who can impart interest, and have them informed of the general import of the paper and ask them to lead the discussion. Hence, they elicit genuine benefit from the papers that are read and from the discussions that follow. Many papers were prepared that were not read; undoubtedly they will find their way into print as they do with us; the title was read and referred without anybody's knowing of what they were made. Sometimes they are made of an abstract, the author thinks he will write it out, but fails to do so. I think in their work they are more deliberate, more complete, they exhaust a subject more nearly, and they endeavor to have the discussion so conducted as to elicit the most information from it. In studying their work as a whole it seemed to me that there are some things we might copy with advantage.

Some member may be here who remembers the proposition made in our own National organization years ago when the Sections met and chose their officers. A proposition was made to change the by-laws so that the officers of the Sections should consist of a president and secretary selected at each annual meeting for the next year, so that there would be officers already elected and the organization of the Section would be perpetuated. I remember that the late Dr. Gross made this motion, that instead of having reports from standing committees on medical education, medical literature, and so on, which we had had previously, these committees be dropped and in their stead the Association select at each meeting men supposed to be qualified for that especial work, in order to present an address to the general assembly, one on medicine, one on surgery, and one on obstetrics and diseases of women and children. That differed from the British programme only in substituting obstetrics and diseases of women and children for State medicine, but it was designed for the same purpose, to have one carefully prepared address read at each of the three last meetings, one on Wednesday, one on Thursday and one on Friday, while the president of the Association would have an address on Monday especially designed for the general body. I seconded Dr. Gross' motion, but instead of it being carried it was referred to a committee, as was also the proposition to have the officers of the Sections appointed each year for the next, and the next year the committee reported in favor of having the officers appointed for the next year, and at the same time they reported in favor of having the president of each Section present an address to the general body on the improvements in the Section over which he presided. That was a substitute for for Dr. Gross' motion. He and I opposed it on the ground that the presidents of the Sections to be chosen each year ought to be selected from the older men, giving them an honorable position, but yet they would not be the men that would be likely to be adapted to read such papers. However, the proposition of the committee carried. Now we have seven or eight Sections with seven or eight addresses before the general body, and what is the result? We find time the first day for the president's address, but the other days of the general meeting do not afford time enough for all the presidents to read their addresses, they are crowded off to the last day and one-third of the addresses prepared by the presidents of the Sections are announced by title and then go over. They crowd the entire time of the general meeting of the body, and I think it would be a great deal better if we were to change our by-laws and appoint the first day for the president's address, which should be of a high order, covering the general field of medicine, another to surgery and another to obstetrics and gynæcology, or public medicine as you choose. Perhaps for the world at large it would be as as well to sometimes change the order. Then let the president of each Section deliver his address as he pleases on any subject of interest to the Section. This would insure a larger attendance and promote the work of the Section, and yet would not crowd the entire time of the general meeting as it does when we try to get in seven or eight general addresses. That, I think, would be a real and substantial improvement in our body that we might copy from the British Association. And then we might go on perfecting still further the arrangement of the papers and interest parties to be ready for brief discussion.

There has been a good deal said of late years about the work of the nominating committee. The nominating committee is appointed in a hurry by little knots gathered together who want to get through. The committee is hurried to do its business and consequently the business is done very imperfectly. It has been claimed that we ought to have a more steady and conservative body, and the council of the British Association has been suggested as a pattern, but I do not think an organization like the British council would satisfy this country in any degree; I think we would not get along with it two years without rebellion all around. But it seems to me in studying the matter over that we might remove the real evils we suffer from and yet not incur the evils that would follow from attempting to make a permanent council. It has been suggested that it be so arranged that one man would hold his place nine years; instead of that I think all the evils from which we are suffering could be obviated by appointing a business committee to consist of two members from each State in the Union. Let each State Society that is represented in the organization be entitled to two members of that business committee and elect them the first year to hold office two years, and after they get started they would have one to elect each year, so that it would be permanent. By electing a new member each year it would be conservative and not totally changed. All the work that now devolves on the nominating committee would be done by this business committee, and if selected with proper care it would be a convenient committee to which might be referred various propositions that come up, and which require careful con-

sideration by members that represent the whole country.

There is an evil in the British council that is complained of now, they say this council has four meetings a year and they have to meet in London because London is the head centre of Great Britain. The practical working of that is that the profession within a radius of one hundred miles of London controls that council. It costs money to go from Edinburgh, Cork, Dublin or remote portions of England to London, and very few out of the whole number of seventy-one go. I learned that there were seven meetings held last year and thirteen of the members did not attend any of them. Not only that, but the remoter districts have found that their delegates so rarely attend, on account of the expense and loss of time, that half a dozen of them reported that they had not elected delegates. Now if we were to appoint a permanent body four-fifths of them would let their interest die out. Suppose you get up a council that is to meet and transact business three times or even twice a year, how many would be found to go from the Pacific Coast or from the north to a central point? It would not take ten years to gravitate so that your council would be in the hands of those within a hundred miles of the central point of meeting. If you made that Philadelphia or Washington or Chicago, the whole body would be ruled by a territory of two hundred miles, simply because parties would not pay out their money and spend their time to attend. They will not in Great Britain, and they are discussing the propriety of getting up some mode of compensating them to induce them to go. The plan I propose will, I think, after some degree of consideration, be found to obviate all the real evils we suffer from in hasty action and hasty nominating committees, and yet it would always secure us a satisfactory working body that would be reasonably representative of the several States to attend to such things as are required to be attended to, and it would be a standing body of intelligent men to whom we could refer such things as would require consideration. The features that I have mentioned are characteristics that struck me as belonging to the British Association, which differ from ours.

In regard to the International Congress: without solicitation the council of the British Association altered the programme of one of their days and announced that on Thursday at a certain hour the delegates from the American Association would be heard in regard to the International Congress. When the time came the hall was fuller than on any other occasion, the room was packed and through the hallways and along the corridors with people evidently having a decided interest in hearing what we had to say, and as the other Americans insisted on my taking the lead I went on the platform and occupied half or three-quarters of an hour in simple explanation. I made no allusion to anybody's differences except in general terms; we had had our troubles, and our frictions and our errors on all sides, but out of it all had come an organization truly National in its character, made up of delegates from all the States in the Union. This organization appointed an executive committee to which had been transferred all further management of the Congress. This National committee had reported their work to the last meeting of the American Medical Association, and it was unanimously sanctioned, and so I felt justified in assuring them that this met the approval of the profession of the United States, and while we had no royal titles, the President of the United States, the Heads of Departments and the President of the Senate had lent their names as patrons. And I assured them that they would receive as cordial a reception at that Congress as the American profession knew how to give. I would guarantee that they would be met by the intelligent part of the profession of every State in this Union from the Atlantic to the Pacific, and I cordially invited them to come. They received my invitation with the greatest degree of enthusiasm, and after a few remarks from Dr. Pancoast and others, which simply endorsed what I had said, they voted us their thanks and accepted our invitation to meet us in Congress in 1887. Among some of the most prominent men in London and the Provinces there is a warm zeal for attending the Congress. Three or four Americans have been on the Continent for some time and report that in France there is a genuine enthusiasm for attending the Congress. In France they do not pay the slightest attention to any differences we have, and just as far as they imagine there is coldness in England or Germany, the Frenchman comes with the more enthusiasm to make it up.

PROFESSOR W. E. CASSELBERRY read a paper entitled

PHARYNGEAL AND NASAL SURGERY BY THE GALVANO-CAUTERY; WITH REPORT OF CASES AND EXHIBITION OF APPARATUS.

New methods of utilizing the galvano-cautery are constantly being devised and recent improvements in batteries and electrodes, and the introduction of the local anæsthetic, cocaine, have materially extended its field of usefulness. In nasal, pharyngeal and even in laryngeal surgery its utility is particularly manifest. Pathological conditions of the upper respiratory passages, which have long baffled the most skilful therapeutics, are now effectually remedied through the medium of this agent.

Case 1.—Folliculous pharyngitis with hypertrophy in the angles of the pharynx. Dr. —— has suffered from fulness, soreness and pain in the pharyngeal region, culminating frequently in acute pharyngitis with extension of the inflammation to the middle ear. Examination disclosed two enormous hypertrophied follicular masses, occupying the latero-posterior angles of the pharynx, each about three-fourths of an inch in length, of the thickness of a lead-pencil, and jutting inward and forward from behind the corresponding posterior pillar. In the normal state a whole chain of muco-lymphoid follicles ranges along in this location, and it is the hypertrophy of this entire row of glands on each side which is the chief feature in the case.

Treatment.—For the purpose of destroying these growths by the galvano-cautery an electrode was extemporized by uncoiling the wire end of a Flem-

ing moxa-electrode, thus converting the coil into an elongated loop. This was so curved as to accurately approximate the mass. The loop heated instantly to a white heat by the action of the battery, produced its slough with but little pain and no hæmorrhage. After several operations, performed at proper intervals, the growths were entirely removed.

Case 2.—Folliculous naso-pharyngitis or adenoid vegetations at the vault of the pharynx. Operations by the galvano-cautery écraseur. The symptoms were those of post-nasal catarrh. Examination, in addition to morbid conditions of other parts, revealed numerous hypertrophied follicular masses—so-called adenoid vegetations covering and filling up the vault of the pharynx; some of these appeared in the rhiniscopic mirror as pendant pear-shaped bodies, others were sessile, and still others had the appearance of several cockscombs crowded together.

Treatment.—Removal of the hypertrophied masses is the only satisfactory means of relief. This he first sought to accomplish with a Löwenberg cutting forceps, but the effort resulted unsatisfactorily. The cold snare and other methods were tried and abandoned, until finally he found that the object could be attained most easily and with the least pain and inconvenience to the patient by means of a galvano-cautery écraseur. He constructed an écraseur for the case by bending a fine pair of straight tubes, threaded with a platinum loop, to the proper curve to pass behind the velum palati and touch the hypertrophied mass. The naso-pharynx was sprayed with cocaine solution. Guided by the rhinoscopic image he introduced the écraseur and caused it to encircle one of the growths, then connecting the battery, the loop heated instantly to redness, was as rapidly wound in on the windlass, and the vegetation thus severed at its base. There was no pain, no hæmorrhage, and but little subsequent irritation. The operations were repeated weekly until the growths were entirely removed.

Case 3.—Malformation of the anterior pillars of the fauces. The symptoms were a sense of constriction in the pharynx and snoring. The malformation discovered was of the anterior pillars, *i. e.*, of the palato-glossal folds. These originated properly in the velum, but increasing in breadth they covered a considerable portion of the inner surface of the tonsils, and then a part only of the fold continuing in the normal pathway forward to the side of the tongue, the larger portion swept *backwards* and incorporated itself with the posterior pillar, forming a thick band, which continued downward in the latero-posterior angle of the inferior-most portion of the pharynx.

Treatment.—The overgrowth of each tonsil, together with the portion of the anterior pillar which covered it, was excised by means of the galvano-cautery écraseur, and at the same time the abnormal attachments of the anterior pillars to the pharyngeal wall were severed.

Case 4.—Membranous occlusion of the posterior nares. Mr. E. suffered from complete obstruction of the left nasal chamber, most violent headaches, vertigo, left sided deafness and fetor of the breath. A tense membrane was found to cover the left choana almost completely, and another to partially occlude the right choana. These membranes were incised by the galvano-cautery knife electrode, properly curved and introduced from behind. Complete relief to all symptoms. Certainly the galvano-cautery can be abused, and a word of caution is not unnecessary in this respect. Accurate diagnosis, precise indications for its use and a certain amount of skill on the part of the operator are essentials to its judicious employment. The Fleming battery has advantages over any other that he has seen, not the least of which is the arrangement by which the plates may be immersed and withdrawn from the fluid by means of a pedal easily manipulated by one foot.

Dr. F. O. Stockton, in opening the discussion, said: I have listened with a great deal of pleasure this evening to the paper; the cases are all very interesting. It does not seem necessary to spoil an electrode in order to make one for a special case; it seems to me that the ordinary flat electrode, by simply bending it down, would answer the same purpose. The trouble is we must have new instruments for every case that comes up. Unfortunately all practicing physicians, many of them who understand the throat and nose, are not so situated that they can run into an instrument maker's establishment at any time and have an electrode made, and I think it is wise to keep down to the standard instruments which can be bought at any time and which are always at hand. Another point I would like to speak of is the idea that follicular pharyngitis and adenoid vegetations are one and the same thing. Some authors consider them the same and others do not. Bosworth, of New York, claims that follicular pharyngitis and adenoid vegetations are one and the same. The battery which Dr. Casselbery shows is the one I have used in my practice for three years. I have tried a number of others and found this one the most satisfactory. A short time ago I saw a modification of it which I think is a little better; it was devised by Dr. Sajous, of Philadelphia, but it is not on the market at present. Many of our prominent writers have rather discouraged people from using the galvano-cautery, as they say it requires a great deal of skill, and knowledge not only of the anatomy of the part we are working upon, but also of electricity and the management of instruments. Dr. Morell Mackenzie, of London, makes that objection to the galvano-cautery; in fact he says that all, or nearly all, the operations can be performed by simpler means. Dr. Cohen, in his last work, also refers to the difficulty of managing it, but I think if they had used the instruments of to-day they would not have found that difficulty.

Dr. H. T. Gradle said: The speaker's paper was so complete there is nothing left for comment except to deviate from the subject and take excursions into neighboring parts. It has been mentioned that galvano-cautery is not absolutely necessary. That may be true as far as the pharynx is concerned, but in the nose it is not. It would be almost impossible to do the same work as steadily by any other instrument, on account of the excessive hæmorrhage that would occur; these cases are unmanageable except with

the cautery, and in most instances we can obtain relief both of local symptoms and obstruction of the nose, as well as the nervous symptoms maintained by the excessive turgidity. The question was asked whether hypertrophy of the pharyngeal tonsil could be identified with follicular pharyngitis; I should say not. We may have one or the other, but the follicles in the disease called follicular pharyngitis are much below the level of the gland. I have often found the gland hypertrophied into a very solid mass of about the consistency of the tonsils. The hypertrophy may of course have any extent; it may be so slight as to leave room for doubt of its existence, while in other cases it is impossible to gain any view of the posterior choanal. In such cases nothing can be thought of but operation. I have used the cautery in the form of a white hot knife or hot snare for hypertrophy of the pharyngeal tonsil, but not satisfactorily. Where we have a distinctly pedunculated tumor it will do well enough to use the hot snare, but where the tonsil is hypertrophied into a solid mass not at all movable with the probe, I have found very little success with the battery, except that its removal is not so painful as by other means. I have at last settled down on the method suggested by Trautman, viz., a sharp curette, as sharp as the instrument-maker can make it, the shank of which is bent at an angle of 140°. The operation is a barbarous one as far as appearances go, because it requires force. There is pretty free hæmorrhage, but the pain is not very great. Unless the person is pretty tolerant it is not easy to remove the entire tonsil in one sitting, but in children I have not had any greater difficulty in coaxing them to the second sitting than I had at first. The results are extremely satisfactory, especially in cases of ear disease entirely due to this trouble. I have had considerable experience with different forms of battery; the kind which I should prefer and recommend is an accumulator, if a wire can be had from some electric light plant. I can speak well of the Mackintosh battery, but I prefer one in which the carbon plates are made of the electric light sticks. They are much harder than the ordinary carbon plates, and we can easily get a very large surface in the battery.

DR. R. TILLEY said: I have had some experience with the cautery and with batteries. I am now using the form of battery Dr. Gradle has referred to; I have the two cells attached so that I use them together, and have them so arranged that I can lift them up with a crank; they are thus very easily manipulated. I have used this battery for about eighteen months, and it has always given me satisfaction. I would like to speak of a slight modification in the fluid which I have recently used; it consists in the use of bichromate of soda instead of bichromate of potash; the advantage is that when the fluid has been used for a considerable length of time, in using the potash there is always formed a large number of crystals in the bottom of the cell, which are very hard and require quite a little time to remove, and which are so closely connected with the cell that there is more or less danger of breaking the glass. In using soda instead of potash this does not occur; the compound thus formed is so soluble that no accumulation is formed at the bottom of the cell. I appreciate Dr. Stockton's remarks in regard to the increase in the number of instruments; I make all my own electrodes and use, practically, wire alone. I see no advantage in the knife over certain modifications of the wire. In operations in the post-nasal and pharyngeal regions, I almost always use the cautery to burn the tissues completely to the bone. The object that I have in view is to make a cicatricial tissue extending from the surface of the mucous membrane to the periosteum, so as to prevent that tumefaction which frequently occurs and fills up the nares. This tumefaction is quite remarkable sometimes and changes so readily that I have seen the anterior part of the turbinated bone swollen up, and a moment afterwards the swelling gone, so that there could not be any possible reason or justification for using the cautery from the appearance of the tissues at the moment. Yet when the patient lies down at night he finds the nose on the side on which he is lying so stuffed up that it is almost impossible to breathe. I have found that when the anterior part of the turbinated bone is burned well down to the bone that tumefaction rarely occurs afterwards. Then there is a necessity of looking after these burns, especially in the posterior regions. In the anterior aspect of the nose there is only a small amount of mucus coming over the part that is burned, and no difficulties follow cauterization; but when the burned area is situated far back the mucus flows over it and it not infrequently happens that unless the part is well attended to a certain amount of fungus growth develops in this region. I consider the after-treatment an important factor in cauterizations. I would like to say a word in regard to these adenoid growths in the posterior nares that Dr. Gradle has referred to. Dr. Trautman, of Berlin, removes all these vegetations with the sharp spoon, and claims remarkable success. I have not seen anything like relatively the same number of cases in my practice that it would seem are met in practice in Berlin. I think adenoid growths are more rare in Chicago. With reference to their removal with the galvano écraseur, I should certainly be disposed to think that the ordinary wire écraseur would be more efficient than the sharp curette, and I think it could be more easily manipulated and more of the growth taken off at the same sitting than with the galvano-cautery.

DR. W. E. CASSELBERRY, in closing the discussion, said: There are some points on which I would like to add a few words of explanation. In reference to spoiling an electrode in order to make a single loop to treat a special case, I spoiled the moxa-electrode because it was an easier way to get the loop than to send to Philadelphia and have one made. As to the merits of the loop over a knife electrode, I think that in cauterizing the soft tissue, by taking a small elongated loop and pressing it into the part you get a slough produced by each parallel wire, and it produces a larger slough with less pain than can be obtained by the knife electrode; the loop will sink further into the soft growth. If you use a plain knife

electrode the slough produced at once under the flat surface of the electrode prevents further effect from its caustic action. I have not only employed the small loop in this particular case, but have found it useful in cases of hypertrophy of the inferior turbinated body where it was unnecessary to cut off a large section by means of the knife or écraseur. By simply taking the elongated loop and pressing it against the body, a considerable slough is produced in the centre; after this has separated there remains an ulcer, and when the ulcer heals there is cicatricial tissue, which afterwards binds the body down. In regard to the multiplicity of instruments, of course the multiplying of useless instruments is to be deprecated, but I would call to mind the fact that a large portion of the advance of medical science during the last half century has been directly due to the invention of new and improved instruments and apparatus. If those who devised the microscope, the ophthalmoscope, the laryngoscope, etc., had been satisfied with the "standard instruments" already in the market, we would not now have those most important forms of apparatus. A new instrument should always receive attention, and if it is a real improvement the inventor should be given due credit. The glandular structures of the vault of the pharynx out of which adenoid vegetations are formed, and the follicles of the oro-pharynx, may not be histologically identical, but they are very similar in structure; they are both lymphoid tissues and both exhibit the same tendency to undergo the hypertrophic process and to form similar large masses which, if allowed to remain, produce morbid symptoms. I don't know that it is necessary to say anything more in regard to batteries; there are a great many in the market. I am favorably impressed with the one I use; it has never failed to work. Although it may not be detrimental to have the plates remain in the fluid, I have an uncomfortable feeling when I know that my plates are being spoiled and the fluid used up faster than they need be. The Sajous battery spoken of is an improvement on the Fleming in this respect, the pedal is not so high from the floor. When one is operating, if he raises his foot to the height of eight inches he is liable to throw himself out of balance and to lose his line of vision. The pedal of the Sajous battery is only about two or three inches from the floor and it is unnecessary to raise the heel off the floor to work it, thus maintaining the balance of the body. The Sajous plates also are corrugated, thus giving the most surface in the least bulk. But unfortunately, the Sajous battery is not in the market. The one which Dr. Sajous uses he had made to order, but I have no doubt that it will be put upon the market soon. The various methods of operating for adenoid vegetations have all the same end in view, that is, the removal of the vegetations. The sharp curette is a good method if the patient will stand the blood, increase of pain and the length of the operation. In the case of children it is, I think, a rather difficult method, and requires considerable skill and fortitude on the part of the patient. The case I have related in this connection was a girl about fourteen years old. I first tried the forceps, but the pain in cutting off the adenoid vegetations was objected to very strenuously by the patient, and I was obliged to desist. Before I tried the hot snare I tried the cold snare, but I found that it took some time to draw up the steel wire and thus squeeze off the vegetation. After the adoption of the hot snare I had no difficulty. The mere introduction of the instrument caused no pain, and after getting it over the vegetation, in two seconds the growth was off, with but little pain and no hæmorrhage to frighten the patient. The treatment of hay-fever by the cautery method, I would like to discuss, but the lateness of the hour will not permit it.

AMERICAN GYNÆCOLOGICAL SOCIETY.

The Eleventh Annual Meeting held in the Hall of the Johns Hopkins University, Baltimore, Md., September 21, 22, and 23, 1886.

TUESDAY, SEPTEMBER 21, FIRST DAY.

MORNING SESSION.

The Society was called to order at 10 A. M., by the PRESIDENT, DR. THADDEUS A. REAMY, of Cincinnati.

DR. H. P. C. WILSON, of Baltimore, delivered *the Address of Welcome.*

DR. H. P. C. WILSON, then read a paper on

THE DIVISION OF THE CERVIX BACKWARDS IN SOME FORMS OF ANTI-FLEXION OF THE UTERUS, WITH DYSMENORRHŒA AND STERILITY.

From want of a judicious selection of the cases, by being done by unskilled hands in proper cases, by being done in unsuitable cases and from want of appropriate after-treatment, this operation has been barren of good results in certain hands and followed by bad results in other hands. This operation has been substituted by the use of stems, sponge-tents and dilators, but I have found no measure so safe and efficient in the classes of cases to which I shall call attention, as the knife. The classes of cases in which I would recommend the operation are:

First, Those of anti-flexion of the uterus, with a hard indurated cervix, where the body is bent upon neck, or the neck upon the body, forming a more or less acute angle.

Second, Those cases of acute flexion where the cervix is hyperplastic and indurated and dense as cartilage.

Third, Those cases where there is a hard, unyielding internal os, through which the probe passes with difficulty and in its passage gives the sensation of passing over rough dense cartilage, while the finger in the sulcus between the body and the neck in front, gains the impression of a strong cord tied around the uterus. Nearly all these cases are sterile. In all of them the nabothian and utricalar glands are hypertrophied and indurated.

The method of operation was then described. With the patient under an anæsthetic, the uterus is drawn downwards by a tenaculum in the anterior lip.

The posterior lip is then divided with scissors up to the vaginal junction. An uterotome is next passed and the internal os divided anteriorly and posteriorly to an extent sufficient to permit the introduction of a large sound. The parts are allowed to bleed freely. A pledget of cotton soaked in a mixture of Monsel's solution, iodine and glycerine is then introduced into the cervix and over this, pledgets treated with Monsel's solution and water and the vagina lightly tamponed. These are not removed until the third day. All the manipulation of the uterus is avoided for at least two weeks. A sound is then carefully passed and every second day the os is gently stretched with a steel dilator. The patient is allowed to fully recover from the operation which usually requires one month. Local treatment is then suspended for one month to allow the intra-uterine mucous membrane to improve. The patient then returns and applications of Churchill's tincture of iodine are made to the endometrium two or three times a week. The treatment after the lapse of a month is again suspended to be resumed in the course of one or two months. If this after-treatment is not carefully and properly carried out, the operation had better not be done. The speaker had performed the operation four hundred times and had never obtained as good results from any other method. In no case has he had a death which could be attributed directly to the operation. There are some cases of dysmenorrhœa and sterility where this operation is entirely unsuited. It was recommended only in the cases described in the beginning of the paper. Several illustrative cases showing the good effects of the operation in overcoming dismenorrhœa and sterility were related.

DR. T. A. EMMET, of New York: Some years ago, I should have been willing to endorse all that has been said by the speaker, but since then I have had reason to change my views. Mechanical dysmenorrhœa I believe to be a myth. We must separate two conditions of flexion, one a flexure of the neck a congenital defect, and the other a flexure of the body of the uterus due to preceding inflammation outside of the uterus. Sterility resulting from this latter cause is not relieved by the operation, and its performance is attended with great risks to life. The congenital flexion is the only one in which I operate to relieve the sterility. In those cases where I have done the operation, I have not left a raw surface, but have drawn the vaginal mucous membrane to the bottom of the wound and secured it with stitches. This does away with the necessity for plugging and the fear of hæmorrhage. This operative procedure is not free from danger, I have known of at least twenty deaths from it. If all the effects of previous inflammation are removed, there is not the same danger, but I cannot see that the operation will do any good.

DR. JAMES R. CHADWICK, of Boston: I regard the flexion as always congenital, the result of the persistence of the infantile shape of the uterus. This I am convinced is not confined to the anatomy of the organ, but also involves its function. The defect probably extends to other portions of the genital tract. The only cases in which I have had any results from operation, have been where there is flexion with a small external os. In a certain proportion of these cases impregnation has followed.

DR. W. H. BAKER, of Boston: Some ten years ago I saw a number of cases in which this operation was done, and while the immediate results were very gratifying, yet in many cases the patients did not retain these good results. Of late years I have limited the operation to the class of cases in which there is a congenital malformation and those in which there has been an inflammatory condition, the results of which have been removed. The good results which Dr. Wilson reports must be explained by the great care in the after treatment which he practices.

DR. FORDYCE BARKER, of New York: Some thirty years ago, I saw Simpson perform this operation a number of times. He performed it in his office and did not seem to apprehend any danger from hæmorrhage. I employed the operation in a few cases, but I soon gave it up. The only cases in which I employ it is where the narrowing is at the os externum.

DR. J. SCOTT, of California: I have practiced the operation, but while the immediate results, have been good, I have been disappointed in the ultimate results. After the operation, the patient should be confined to bed at perfect rest, and hot water injections be employed every two hours.

DR. W. T. HOWARD, of Baltimore: My experience has not shown me that any particular operation is the one for all cases. By the antero-posterior incision I have had some excellent results. With the precautions adopted in operating in other portions of the body, incision of this kind in the majority of cases should not be dangerous. In some cases I have employed the posterior incision, in others the bilateral incision, but in the majority of cases I dilate, using antiseptic precautions and never taking less than twenty to thirty minutes to complete the operation.

DR. R. STANSBURY SUTTON, of Pittsburgh, read a paper describing

ANOTHER MODIFICATION OF EMMET'S CERVIX OPERATION, WITH A CASE IN POINT.

A case of old standing neglected double laceration of the cervix was reported. The cervix was composed of dense, hard, hyperplastic tissue almost cartilaginous in character. An operation by the ordinary method was out of the question, for the sutures would not have held. In order to remove the greatest amount of cicatricial tissue and overcome the condition, the following procedure was resorted to: The lower lip of the laceration was denuded of its altered mucous membrane, leaving only a narrow strip corresponding to one-half of the strip usually left to serve for the future os. The upper lip was treated in the same way leaving the opposite half of the strip of mucous membrane. When the flaps were brought together, the strips of mucous membrane lay side by side. In this way, union in the position of the future canal was prevented. Good union followed the operation and at the end of three weeks a Simpson sound was passed without difficulty. This

operation may be of service in certain cases where the usual operation can not be performed.

Dr. T. A. Emmet: The modification seems to be an ingenious one, but its value can only be determined by future trial. In such cases, however, where there has been such cystic degeneration it is often better surgery to amputate a portion of the cervix, so as to get into healthier tissue. In a certain number of cases, I have always performed amputation, I have always objected to amputation of the cervix in so-called elongated cervix.

Dr. George J. Engelmann, of St. Louis: I have paid very little attention to the strip of mucous membrane. I have in such cases as has been described by Dr. Sutton, cut away nearly all the mucous membrane and insert a short piece of fine catgut. This keeps all the opening which is necessary.

Dr. W. H. Baker, of Boston: I think that if we can restore the healthy character of the strip of mucous membrane and retain it, that is the best surgery. In this class of cases I have been in the habit of removing a transverse wedge-shaped portion of each lip of the cervix and then bring the parts together. In this way the hyperplastic tissue preventing the apposition of the surfaces is removed.

Dr. Elwood Wilson, of Philadelphia, presented a paper read by the Secretary:

NOTES ON THE TREATMENT OF RECENT LACERATION OF THE CERVIX UTERI.

Occasionally a tear of the cervix can be recognized immediately after labor, but sometimes this can not be done. The patient should always be examined ten or twelve days later. If laceration be found immediately after labor, injections of corrosive sublimate solution, one to five thousand with the insertion of an iodoform suppository should be resorted to. The vagina should be irrigated every other day and the suppository renewed. When the laceration is found within three weeks after delivery, the following treatment should be employed: After the surface has been carefully cleansed and dried, it should be painted with a solution of nitrate of silver one drachm to the ounce of distilled water. From three to five applications at intervals of five days are usually required. In every case in which the author had tried this measure (six in number) the result was entirely satisfactory.

Dr. Fordyce Barker: It seems to me that the practice recommended in the paper is better worthy of trial. It is much preferable to the rule laid down within the past few years, that if there is a laceration it should be closed immediately after labor. If this method will effect union it should be tried.

Dr. T. A. Emmet: I suppose that a certain amount of laceration occurs in every labor, but it is wonderful what nature will do to restore the cervix where septic poisoning is not present. It seems to me that in all cases, where under favorable circumstances, nature has failed to repair the damage, there have been symptoms indicating septic inflammation. In the cases reported I believe that the same results would have been obtained even if nitrate of silver had not been employed.

Dr. J. Scott, of San Francisco: In only one case have I attempted to sew up the cervix shortly after labor. In this case there was an extensive tear of the cervix and of the peritoneum. There was considerable bleeding, and five hours after labor I thought it advisable to sew up the cervix. The tissues were so soft that it was with the greatest difficulty that I could get the sutures to hold. Union took place, however, both in the cervix and in the peritoneum.

(To be concluded.)

FOREIGN CORRESPONDENCE

LETTER FROM LONDON.

(FROM OUR OWN CORRESPONDENT.)

The Outbreak of Scarlatina at Marylebone—Restoration of the Color of Hair by Phosphorized Cod-liver Oil.

Some time ago attention was called to the circumstances which attended a remarkable outbreak of scarlet fever in the Marylebone district of London. The mystery surrounding the epidemic in question was of a profound nature. The ordinary sources of infection were proved to be inoperative. The presence of scarlet fever in the occupants of dairies from which the milk of the infected families was derived was shown to be a theory utterly unsupported by facts. There was in short no signs or trace of infection in so far as regarded the milk supply or its human environments. Yet, that the disease had spread from milk, and in particular from the milk drawn from one farm at Hendon, seemed to be a hypothesis suggested and supported by the facts of the case. Accordingly Mr. W. H. Power, of the Local Government Board, undertook the task of further investigation. As the result of a very full enquiry this gentleman was able to localize a disease which had appeared in certain cows imported into the dairy farm at Hendon, as the probable cause of the scarlet fever infection. By a process of elimination of all unlikely and unsupported evidences, the cows themselves were thus fixed upon as the defaulters in the matter of healthy conditions. It has long been suspected that milk under certain circumstances could give rise to scarlet fever in man. This was a theory of sanitarians, but it lacked proof and demonstration. Mr. Power's inquiry had traced the scarlet fever epidemic of Marylebone to certain affected cows at Hendon, but as formerly remarked, decisive proof was needed to prove that the disease of the animals could really produce scarlatina in man. That proof has now been supplied. It is therefore no longer a matter of speculation, but one of plain proof, that milk taken from cows affected with a particular disease is capable, when impregnated with the germs of the ailment in question, of giving rise to ordinary scarlet fever in human beings. This is a step gained in health science. It is true that this is by no means the first or only occasion on which an animal disease has been proved capable of originating a corresponding ailment in man.

The task of tracing out the exact nature of the disease in the Hendon cows was entrusted to Dr. Klein, whose labors as an investigator in this difficult branch of pathology are well-known and appreciated by the world of science at large. Two of the affected cows at Hendon were purchased by the Local Government Board, and were conveyed to the useful scientific depot, the Brown Institution. The disease Dr. Klein tells us in the Report which has been issued by the Board, made its appearance on the teats and udders of the cows. These sores were, however, only the localized manifestations of the constitutional trouble. The hair was also noted to be liable to come off in patches on the back and tail particularly. That the ailment did not appear to have affected the health of the animals in any severe or marked degree was proved by the facts that their feeding was not impaired in any way, while their temperature was normal. Post-mortem examination of the cows revealed prominent affections of the lungs and kidneys especially, while the liver tissue is described by Dr. Klein as being much softened. It was clear therefore that the disease, whatever its nature, had not left the system of the animals untouched. The crucial point of the inquiry, however, had reference to the nature of the local sores already mentioned as occurring on the teats and udders. It is from such manifestations that the true character of a disease can often be best determined. Dr. Klein inoculated four calves with matter taken from the ulcers of the cows. In each case a similar sore was produced, this fact proving the transmissibility of the disease, in one fashion at least, from cow to cow. Similar inoculations, made on guinea pigs and dogs resulted in the discovery that the former animals are insusceptible to the action of the poison or disease matter. In one of the three dogs inoculated a successful result was obtained.

The germs found in the matter from the ulcers, Dr. Klein describes as closely resembling the germs that are familiar as occurring in the well-known "foot and mouth disease" of cattle. Cultivating the germs in various solutions adapted to imitate the fluids of the cow's body in which they found apparently a natural habitat, Dr. Klein was able to study their development, and was also placed in a position to make experiments with the view of further testing if the germs in question were veritable sources of the disease. Using a cultivation of the germs he inoculated therewith two calves. In twenty-six days one of these calves was found dead. Examination of the animals body proved that it had perished from a very distinct form of disease. Dr. Klein tells us that this disease, artificially produced in the calf by inoculation with the germs derived from the cow "bears a close resemblance to human scarlatina." He specially quotes the appearances found in the kidney of the animal as indicative of scarlet fever attack. The symptoms produced in the calf, when compared with those found in man after scarlatina are, in Dr. Klein's ideas, absolutely identical. There is little need to enter at greater length into the history of these investigations, which have been satisfactorly brought to a point, leaving no doubt whatever that cow disease of a special kind is capable of giving scarlet fever to human beings. It remains, however, to remark that the milk of the affected cows has been proved to be pure and harmless enough. It does not contain the germs of the disease. Hence, a question arises regarding the manner in which infection becomes possible. There can be no doubt that the milk becomes contaminated after it has passed from the udder of the cow. Dr. Klein says that the fingers of the milker must of necessity bring down into the milk disease particles from the ulcerations on the teats of the animal. In the milk these germs find a good medium in which to multiply. If the nature of the infection becomes thus plain, the duty of the dairyman, under these new revelations of science, becomes no less clearly defined. His business more than ever will demand strict attention being paid to the health of the cows under his charge. Armed with the knowledge of Dr. Klein's discoveries, it should be an easy matter for the veterinary inspector of the dairy to isolate at once from the vicinity of healthy cows all animals presenting the diseased appearances described. While it will be incumbent on the dairy man to see that the milk of such animals is not allowed in any way to be used for human or indeed animal consumption.

A case was shown recently in a patient who, whilst under the internal administration of phosphorized cod-liver oil, his hair, which was prematurely grey, returned to its original color. G. O. M.

DOMESTIC CORRESPONDENCE

LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Charities and Correction—Entertainment for the Insane—Bartley Campbell—Industrial Education Association.

The Commissioners of Charities and Correction are contemplating some important changes in the accommodation of the city's criminals, paupers, sick, idiotic and insane, of which they have charge. The penitentiary on Blackwell's Island, having for a long time been overcrowded, instead of enlarging the buildings there, it has been decided to erect an entirely new structure elsewhere, and two years ago, under a a special act of the Legislature, empowering them to make the purchase, the Commissioners bought Riker's Island for the purpose. They propose to have there an enormous model penitentiary, ample in size to serve for many years to come, and have now practically secured from the Board of Estimate and Apportionment the sum of $100,000 with which to commence the work. There was some legal obstruction to this appropriation, but this is believed to have been removed by a recent decision of the Court of Appeals.

In order to relieve the overcrowded asylums under their charge, the Commissioners last year purchased a thousand acres of land near Central Islip, on Long Island. The present population of these institutions is reported as follows: Men in city insane asylum,

Ward's Island, 1,944; women in asylum on Blackwell's Island, 1,879; women in branch asylum, Ward's Island, 614; women in homœpathic hospital (insane), 150; epileptics and idiots in institutions on Randall's Island, 650; total, 5,237. It is prepared to inaugurate, under the direction of Dr. A. E. MacDonald, general superintendent of the city asylums for the insane, the cottage system, which has been so successfully carried out in Germany and Switzerland, on this tract on Long Island, which is conveniently situated on the railroad and is said to be admirably adapted for farming purposes. Many attractions and home-like cottages will be erected there, in which will reside small families of the non-violent insane, both men and women, and it is believed that with the labor of the able-bodied among them they will at once care for themselves at a lower rate of current expenditure than under the present system, which, by means of the various favorable influences thus brought to bear upon them (which will be so different from those of the ordinary lunatic asylum), the percentage of recoveries will be largely increased. For a considerable time, between six and seven hundred insane men have been employed in useful labor, principally in farm and garden work, on Ward's Island, while many of the insane women on Blackwell's Island are constantly occupied in womanly work there; and the results from the plan have been very satisfactory.

By the removal of the penitentiary to Riker's Island, Blackwell's Island will be left exclusively devoted to the relief of the suffering poor. As long as it remains there, the hospitals and asylums will, to a certain extent, continue to be associated in the popular mind with the penal institution. As has been said, the shadow of the penitentiary rests upon all the noble works of charity on Blackwell's Island, and by its association with crime in an official way, a new disgrace is imposed upon helpless poverty, and soon a stigma cast upon the victims of physical suffering and mental alienation. Among the other recent improvements on Blackwell's Island is the abandonment of the hospitals for small-pox and other contagious diseases there. Patients suffering from these afflictions have now been transported from the care of the Commissioners of Charity and Correction to that of the Health Department, and about six months ago the new hospital for infectious diseases was opened on North Brother's Island, under the auspices of the latter, which also has charge of the new reception hospital at the foot of East 16th street.

The former small-pox hospital building, thus left vacant, is charmingly situated on the extreme southern point of Blackwell's Island, and as it is substantially built of stone and architecturally one of the handsomest structures among the city institutions, it was decided not to destroy it, but to fit it up for the residence of the corps of trained nurses engaged in the care of the sick in the neighboring great Charity Hospital. As a preliminary to this conversion, everything but the stone walls was torn out and burned—trams, flooring, wainscoting, rafters and roof—and the interior was completely reconstructed, so as to adapt it in the most perfect manner possible to its new uses. The fifty young women of the Charity Hospital training school have just taken possession of their palatial quarters, and it is altogether probable that no set of hospital nurses has ever before been so luxuriously housed. On the ground floor a spacious corridor runs through the building (which is eighty feet long), from end to end, with a connecting hall as long as the width of the building (forty feet), and on either side the large parlors and reception rooms, are the office and apartments of the lady superintendent. The floors above are devoted to the sleeping rooms of the nurses, which are large, lofty and admirably lighted and ventilated, and it is needless to say that the young women are highly delighted with their new quarters. Among the other attractions of the place is a beautiful bathing beach just at the doors.

In Bellevue Hospital, one great trouble with the old and badly constructed buildings of which has always been the difficulty of receiving an adequate supply of fresh air, the Commissioners have decided to introduce a new system of ventilation, the working-power of which is applied by an electric motor; and it is claimed that by it the air in a ward will be entirely changed every thirty minutes, and may be in each fifteen minutes if it is required that the temperature should be maintained, absolutely without fluctuation, at any desired point. The working of the fans in the tubes at the top of the buildings will be entirely automatic, and the electric motor will not require attention more than once a month.

Dr. MacDonald and his assistants have recently introduced at the Female Insane Asylum on Blackwell's Island a form of entertainment which it is thought will prove highly beneficial. Instead of having the patients entertained by musical or dramatic performers by parties from outside, as has been commonly the custom, the idea is to have the patients give the whole performance themselves, and the first of these took place on the 22d of September. The programme was made up of vocal and instrumental music, recitations and dramatic and negro minstrel sketches, and was most keenly enjoyed both by the audience and those who took part in it. The costuming is said to have been very amusing, and a part of the wardrobe was supplied from that of a disbanded theatrical company, which Commissioner Brennan, who always has a large heart for the unfortunates under the care of the Department, recently purchased for the patients. These entertainments will be repeated as often as practicable, as the physicians find their effect exhilarating and healthful.

The wife of poor Bartley Campbell, the playwright (who has been for some months an inmate of the Bloomingdale Asylum), having applied for the appointment of a committee of his estate and person, Judge Andrews, of the Supreme Court, has granted a writ *de lunatico inquirendo*. In his testimony concerning the condition of the patient, Dr. Charles H. Nichols, one of the physicians of the asylum, states that he continues to show the characteristic indications of progressive paralysis of the insane. In his hallucinations he imagines that he frequently holds communications with Shakespeare, Wagner, Queen Victoria, King Humbert, of Italy, President Grévy, and other notable personages, living and dead,

whom he is supposed to meet in heaven. At other times he fancies that many persons are pursuing him for the purpose of taking his life, and that among them are his two sons, from whom he especially beseeches to be protected; while sometimes, again, his delusion is that certain persons, one of whom is Oliver Cromwell, are engaged in combat with each other within his body.

The large and commodious building on University Place, formerly occupied by the Union Theological Seminary, has been secured for that excellent institution, the Industrial Education Association, which, since the exhibition of children's handiwork last spring, has greatly extended its work and has been placed upon a permanent basis. During the last summer the experiment of opening vacation schools has had a good effect in showing the advantages of seeking to establish in children the habit of cheerful industry, and a number of classes of boys and girls have been profitably trained on Long Island, Staten Island and other localities. In its new quarters the Association will enjoy extended facilities for carrying out its work. The former chapel has been converted into a lecture hall, and the library will be used as a permanent exhibition for juvenile industries. Many useful and ornamental kinds of handicraft will be practically taught, and the courses of instruction also include a Kindergarten and a training school for female servants. P. B. P.

MISCELLANEOUS.

THE PASTEUR INSTITUTE.—The municipal council of Paris has ceded to the Pasteur Institute, the ground on which it is built. The official statement just made by the directors of the institute shows: The whole number of persons treated by Pasteur is 1,656 (of these, 15 have died); 1,009 of these were French (3 of them died); 182, including 50 bitten by rabid wolves, were Russians (3 of these bitten by dogs, and 8 by wolves, have died); 20 were from Roumania, with one death; of the others, 59 were from England, 17 from Austria, 74 from Algeria, 18 from America, 2 from Brazil, 42 from Belgium, 58 from Spain, 7 from Greece, 8 from Holland, 25 from Hungary, 105 from Italy, 20 from Portugal, 2 from Turkey, and 2 from Switzerland. Of these not one has as yet died.

THE DETECTION OF MORPHINE TAKING.—PROFESSOR BULL, of Paris, says that the morphine-taker may be detected by examination of the skin or the urine. The skin will be covered, usually on the thighs, with little dark spots which are situated in the centre of small indurations; these are made by the hypodermatic needle. If the patient refuse an examination, the urine may be examined. By adding a few drops of tincture of iron to the urine, a blue tinge will be presented if morphine be present.

DEATH OF MR. SAMPSON GAMGEE.—We regret to have to announce the death of Mr. Gamgee, which took place on September 18.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 25, 1886, TO OCTOBER 1, 1886.

Major Dallas Bache, Surgeon, granted leave of absence for 25 days, to take effect on or about Oct. 2, 1886. (S. O. 143, Div. of the Atlantic, Sept. 24, 1886.)

Capt. Daniel M. Appel, Asst. Surg., assigned to duty at Fort Davis, Texas. (S. O. 133, Dept. Texas, Sept. 22, 1886.)

First Lieut. Philip G. Wales, Asst. Surg., leave of absence extended to include Nov. 5, 1886. (S. O. 226, A. G. O., Sept. 29, 1886.)

First Lieut. Charles M. Gandy, Asst. Surg., assigned to duty at Fort Concho, Texas. (S. O. 131, Dept. Texas, Sept. Sept. 18, 1886.)

First Lieut. Chas. F. Mason, Asst. Surg., ordered for temporary duty at Fort Verde, Arizona Ter. (S. O. 90, Dept. Arizona, Sept. 20, 1886.)

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY, DURING THE TWO WEEKS ENDING OCTOBER 2, 1886.

P. A. Surgeon D. M. Guiteras, to Rec'g Ship "Franklin," for temporary duty, Oct. 3d.

Asst. Surg. A. R. Wentworth, detached from Navy Yard, League Island, and to the U. S. S. "Galena," Oct. 1st.

Asst. Surg. H. B. Scott, ordered to Navy Yard, New York, Oct. 1st.

P. A. Surgeon Richard Ashbridge, detached from the U. S. S. "Swatara," Oct. 1st, granted six months leave.

Asst. Surg. T. A. Berryhill, detached from the Museum of Hygiene and ordered to Rec'g Ship "Minnesota."

P. A. Surg. Geo. Arthur, detached from the Navy Yard, New York, and ordered to the Museum of Hygiene.

P. A. Surg. H. T. Percy, detached from the U. S. S. "Galena," proceed home and await orders.

Asst. Surg. Joseph Shafer, detached from the U. S. S. "Minnesota," and ordered to the U. S. S. "Swatara."

P. A. Surg. J. M. Steele, detached from Naval Academy, and granted six months leave.

P. A. Surg. Clement Biddle, ordered to Naval Academy, Annapolis, Md.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE HOSPITAL SERVICE FOR THE WEEK ENDED OCTOBER 2, 1886.

Bailhache, P. H., Surgeon, granted leave of absence for thirty days, Sept, 25, 1886.

Vansant, John, Surgeon, granted leave of absence for thirty days, Sept. 24, 1886.

Bratton, W. D., Asst. Surgeon, relieved from duty on Revenue Steamer "Corwin," ordered to duty at Marine Hospital, San Francisco, Cal., Sept. 20, 1886.

Purviance, Geo., Surgeon, granted leave of absence for twenty-five days, Sept. 30, 1886.

Stoner, G. W., Surgeon, granted leave of absence for twenty-three days, Oct. 1, 1886.

Carter, H. R., Passed Asst. Surg., to proceed to Galveston, Texas, as Inspector, Sept. 30, 1886.

Ames, R. P. M., Passed Asst. Surg., granted leave of absence for thirty days, to take effect when relieved, Sept. 30, 1886.

Wasdin, Eugene, Asst. Surg., ordered to examination for promotion, Sept. 30, 1886.

Brooks, S. D., Asst. Surg., granted leave of absence for thirty days, to take effect when relieved, Sept. 30, 1886.

Williams, L. L., Asst. Surg., relieved from duty at Mobile, Ala., ordered to Marine Hospital at Wilmington, N. Carolina, Sept. 27, 1886.

Perry, T. B., Asst. Surgeon, relieved from duty at San Francisco, Cal., ordered to Marine Hospital, St. Louis, Mo., Oct. 1, 1886.

CORRIGENDUM.

On page 240 of THE JOURNAL of August 28, in the Editorial on "Pasteur's Anti-Rabic Inoculations," in the 21st line from the top of the first column, for the word "room" read *wound*